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Telephone SPring 7-9364

AMERICAN
DYESTUFF REPORTER
DEVOTED TO TEXTILE WET-PROCESSING

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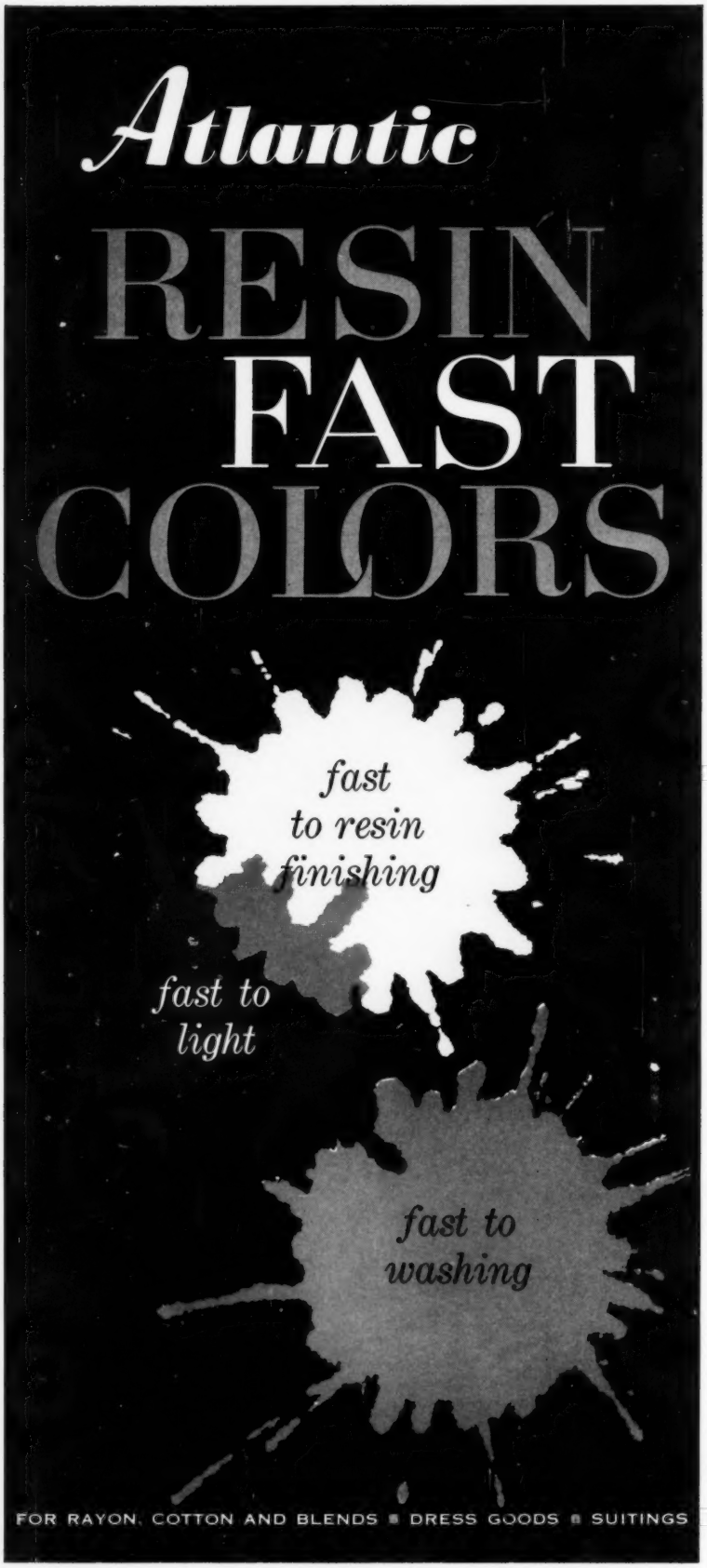
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Resin Fast Orange LL
Resin Fast Orange LL2G
Resin Fast Orange 3GU
Resin Fast Orange 4GLL

RED

Resin Fast Red BB
Resin Fast Red LBL
Resin Fast Red 3BL
Resin Fast Red 6BLL

VIOLET

Resin Fast Violet BRL
Resin Fast Violet RL
Resin Fast Violet 2RLL

BLUE

Resin Fast Blue Green FBL
Resin Fast Blue BRN
Resin Fast Blue BFL
Resin Fast Blue FGL
Resin Fast Blue 4GLR
Resin Fast Blue GUL
Resin Fast Blue LBGL
Resin Fast Blue LBL
Resin Fast Blue LLGG
Resin Fast Blue LLU
Resin Fast Blue UGLL
Resin Fast Blue 2RLL
Resin Fast Blue 8GLF
Resin Fast Blue 8GLN
Resin Fast Blue 9GL
Resin Fast Blue 7GUL

GREEN

Resin Fast Green 2B
Resin Fast Green 4BLL
Resin Fast Green 5BLL
Resin Fast Green 5GL

BROWN

Resin Fast Brown BRL
Resin Fast Brown 5GLL
Resin Fast Brown 3RL
Resin Fast Brown 8RL
Resin Fast Brown S4B

BLACK

Resin Fast Black LW
Resin Fast Grey LVGL
Resin Fast Grey 4GL

Samples and Literature Available on Request

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PASSAIC, NEW JERSEY

WORKS AND LABORATORIES
10 KINGSLAND ROAD, NUTLEY, N. J.
CABLE ADDRESS: ANILDYE-PASSAIC

AMERICAN

DYESTUFF REPORTER

Volume 49 May 16, 1960 No. 10

"PARADE OF PROGRESS" AMERICAN TEXTILE MACHINERY EXHIBITION—INTERNATIONAL

Convention Hall • Atlantic City, NJ • May 23-27, 1960

Auspices of the American Textile Machinery Association

WITH the opening of the 1960 American Textile Machinery Exhibition—International on May 23, the capital textile equipment on display will represent an outlay of approximately $30 million, the most ever assembled in a U S textile machinery show, or, it is believed, anywhere else under one roof.

ATME-International will occupy the entire Convention Hall in Atlantic City, NJ, with machinery displayed on two floors, the Boardwalk level and the lower avenue level. Newly installed escalators will connect the two floors, which together cover an expanse of seven acres.

In the newly designed lobby will be located the ATMA hospitality desk, to provide exhibition information; registration facilities; transportation desks; and general service desks.

* * * *

In this special section, readers of AMERICAN DYESTUFF REPORTER will find selective exhibit information tailored to their specific interests. From a list of approximately 350 exhibitors the ADR staff has culled those concerns which will exhibit textile wet-processing machinery, equipment, chemicals and auxiliaries. You will find on the following pages exhibit information, alphabetically arranged by exhibitor, and for your convenience, two maps showing in red the location of those exhibits of direct interest to the chemist, dyer, printer, finisher, bleacher, and others engaged in textile wet processing.

In your "technical tour", it is hoped that you will stop at AMERICAN DYESTUFF REPORTER booth (No. 758) to renew old friendships or make new ones.

EXHIBITION HOURS

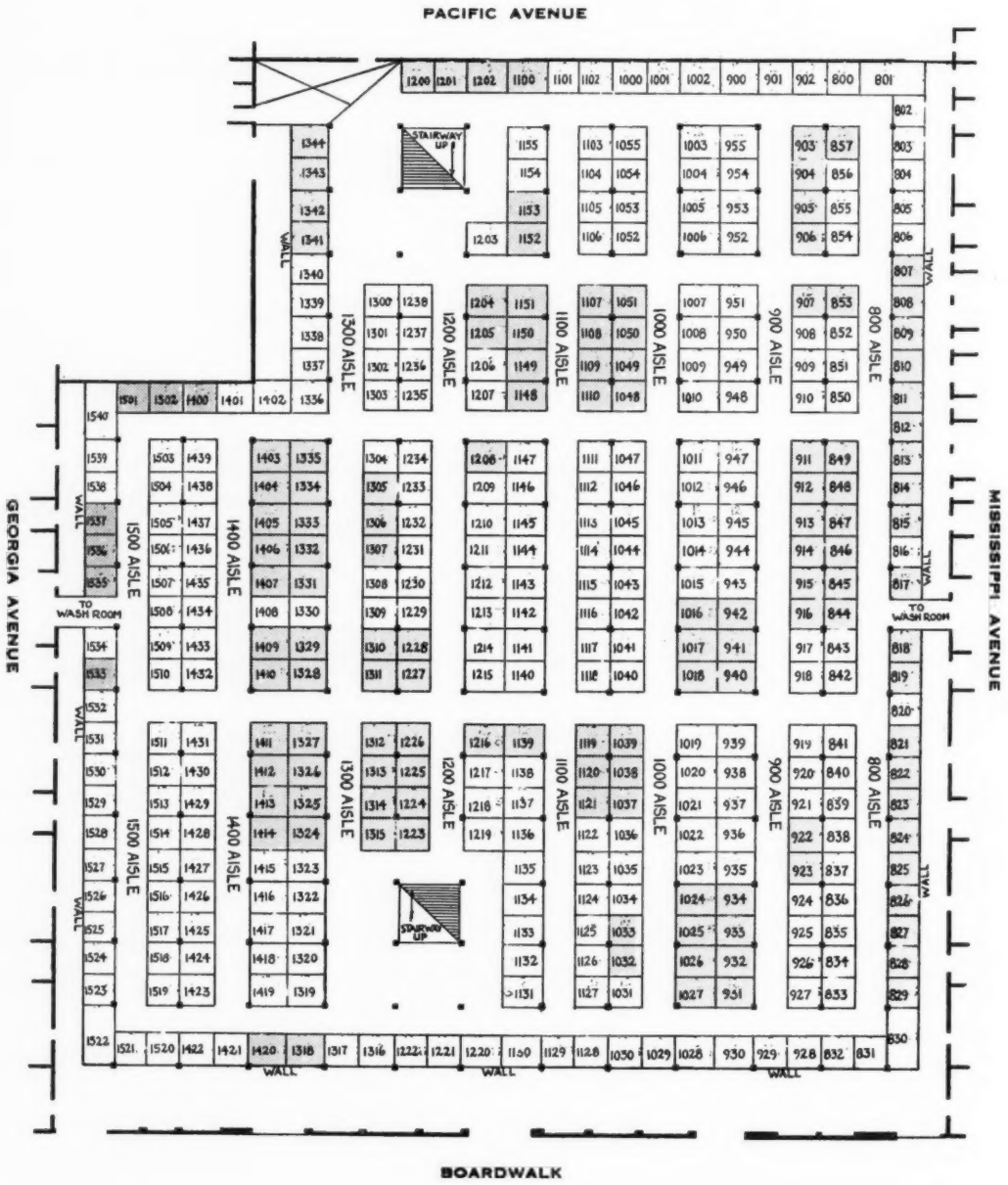
MONDAY,	MAY 23	—	10 am to 6 pm
TUESDAY,	MAY 24	—	10 am to 6 pm
WEDNESDAY,	MAY 25	—	10 am to 6 pm
THURSDAY,	MAY 26	—	10 am to 6 pm
FRIDAY,	MAY 27	—	10 am to 5 pm

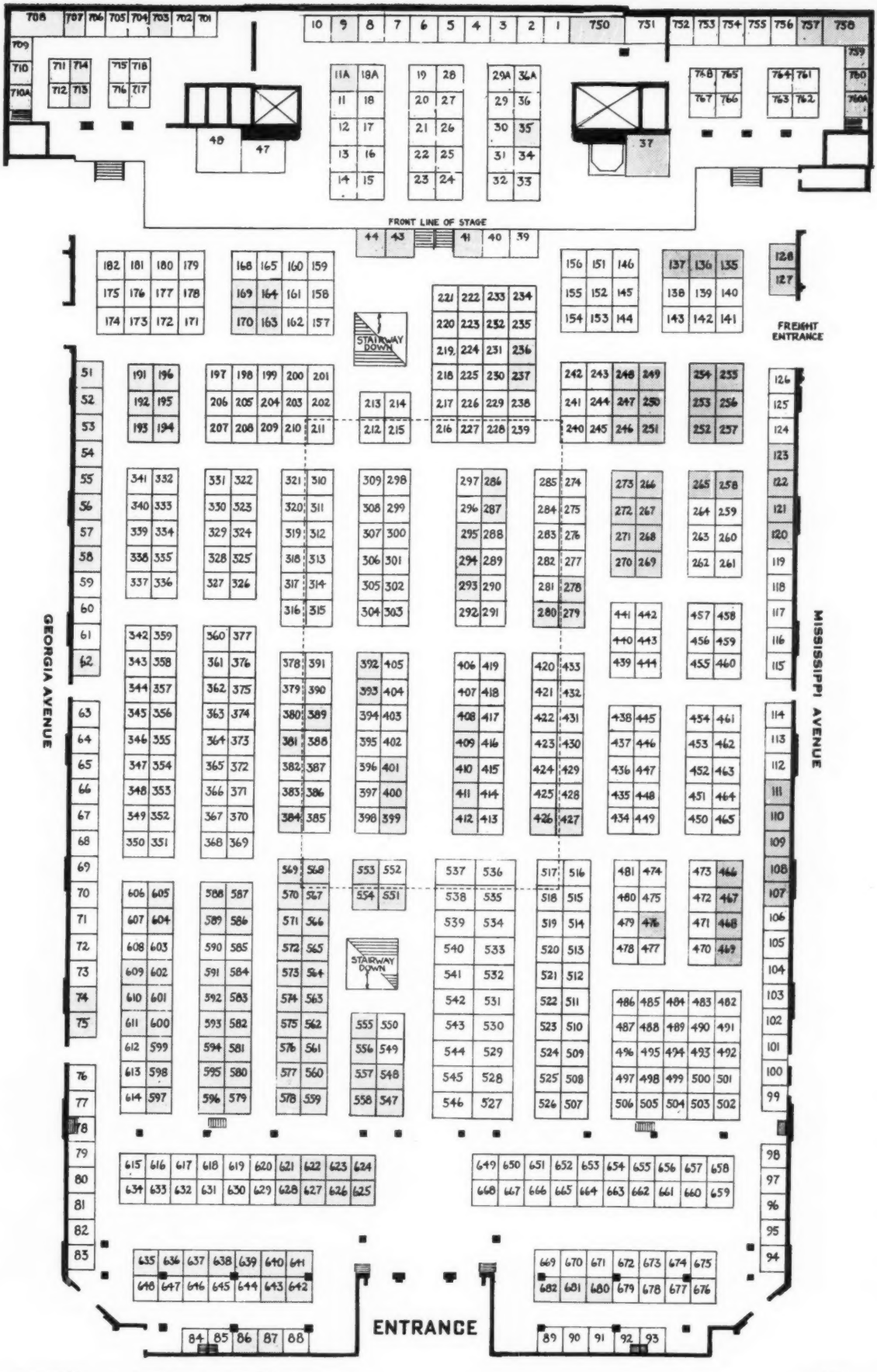
"A TECHNICAL TOUR"

1960 American Textile Machinery Exhibition—International

Atlantic City Convention Hall • Atlantic City, NJ

On these pages are maps of the Exhibition area. BOOTHS OF SPECIAL INTEREST to readers of AMERICAN DYESTUFF REPORTER, the only publication devoted exclusively to textile wet-processing, are indicated in RED. It is hoped that this innovation will help to guide the readers' "Technical Tour" into the areas of chief interest.




FRONT LINE OF STAGE
STAIRWAY DOWN
STAIRWAY DOWN
FREIGHT ENTRANCE
GEORGIA AVENUE
MISSISSIPPI AVENUE
ENTRANCE

AMERICAN DYESTUFF REPORTER

44 East 23rd Street
New York 10, N Y
Booth 758

Publication

In attendance: Norman A Johnson, Charles A Whitehead, Myron D Reeser, Ernest J Finan and Herbert A Stauderman.

●

ANDERSON MACHINE SHOP, INC

Brook Road
Needham Heights 94, Mass
Booth 551

On exhibit:

Pacific Evenness Tester—A new model with variable speeds and recorders for testing unevenness and weight of yarn, roving, sliver and woolen card sliver.

Pacific Integrator—A new model for calculating the true thickness and average percent uneveness of material run on the Pacific Evenness Tester.

Static Measurer—A measuring device for rapidly measuring the static charge at any point and designed specifically for use in textiles.

In attendance: Angus G Anderson.

●

ATKINSON, HASERICK & CO, INC

Box 509
Framingham, Mass

See Societe Alasacienne de Constructions Mecaniques

See Tomlinsons (Rochdale) Ltd

See Standfast Dyers and Printers, Ltd

(*See page 57*)

●

BENNO SCHILDE MASCHINENBAU-AG

(16)Bad Hersfeld, Germany
Booths 827, 828, 829

On display: An air penetration dryer for loose textiles of all types. It is stated that, with this new dryer, a very intense evaporation of moisture is achieved in a small space at low power consumption. Special constructional elements prevent a fouling of the dryer so that no cleaning is necessary when changing loads.

In attendance: Jakob Nieding, engineer.

U S Representative: Cosa Corp, Textile Machinery Dept, Chrysler Bldg, New York 17, N Y.

●

BIRCH BROTHERS, INC

32 Kent St
Somerville 43, Mass
Booths 466, 467, 468

On exhibit:

Model 7 three-roll automatic cut-off winder.

A new two-roll laboratory Minicalender specifically designed for quick roll changes so that one machine in the laboratory can perform all of the common calendering operations with only a simple and quick roll change.

A new Flexlife ball-bearing expander roll.

A complete selection of the new Flightweight line of mill sewing machines.

A BB880 heavy-duty, high-speed scutcher with all-stainless-steel components.

In attendance: Clifford W Birch, Jr, president; Harold W Birch, treasurer; Richard Briggs, vice president; John C Cosby, Southern representative; Herbert J Anderson, Canadian representative.

(*See page 67*)

FRITZ BUSER ENGINEERING WORKS

Wiler, Switzerland
Booth 1208

Screen printing machine will be shown.

●

H W BUTTERWORTH & SONS CO

Bethayres, Pa
Booths 621-28

New equipment to be shown here will include a patented winder built around a new concept of automatic cutting and doffing, a six-needle sewing machine, a new method of applying pneumatic pressure to printing machine mandrels, a new compartment washer, a six-cylinder dryer, a laboratory padding machine, a high-speed tentering machine in operation, and a vaiety of newly engineered tenter clamps.

In attendance: J E Butterworth, president; DeHaven Butterworth, executive vice president; Stanley Brooks, vice president, sales; Thomas M Davis Jr, assistant sales manager and export manager; T W Kitchen, George M Marks, Victor A Jones, and Harold E Whitaker, sales representatives.

(*See page 47*)

●

ETABLISSEMENTS CALLEBAUT-DE BLICQUY

73, Chausee de Ruysbroeck
Brussels 19, Belgium
Booths 853, 907

On exhibit:

A totally enclosed universal high-temperature dyeing and bleaching machine, model React-O-Mat, capacity 100 kg, with a dyestuffs dissolving pan and carrier for crosswound cheeses.

A cupboard-type dyeing machine for hank dyeing with a double row of sticks, taking two superimposed layers of hanks supported by two rows of sticks each, for the dyeing of wool, cotton and synthetic hanks; capacity 100 kg or 50 kg of wool.

Two automatic high-temperature laboratory waterbaths for the dyeing of samples with liquor ratios of 1 to 5 and 1 to 25, permitting the dyeing of loose stock, sliver, thread and cloth samples (jig).

In attendance: A P Snoeck, export director.

●

CAROLINA FIBERGLASS PRODUCTS CO

Wilson, N C
Booth 1205

On exhibit will be cloth boxes, dye vats, tubs, buck-

Carolina fiber glass products

ets and batch containers made of fiber glass.

In attendance: R P Watson Jr, president; W N Conoley, executive vice president; D L Collins, secretary and treasurer; Ira R Gunn, accountant.

●

CLARK DOOR CO, INC

515 Hunterdon St
Newark 8, N J
Booth 58

On exhibit will be a shock absorber door, a double swinging impact door for use between finishing rooms, dyeing rooms and exterior doorways. Also on exhibit will be a Prestomatic automatic door, a complete air- or electric-powered unit.

In attendance: Henry B Clark Jr, sales manager; Edward Wiegleb and G J Valk, salesmen; Henry B Clark, president.

●

CLINTON CORN PROCESSING CO

Clinton, Iowa
Booth 62

Reception booth.

In attendance: A C Junge, vice president and general sales manager; R C Rau, divisional sales manager; C F Cline, district sales manager; Boyce Estes, Grady Gilbert, C W Hite, and Glenn Henderson, sales representatives; E F Patterson and Joe L Finley, technical sales service representatives.

●

COOK MACHINE CO, INC

Subsidiary of Riggs & Lombard, Inc
Foot of Suffolk St
Lowell, Mass
Booth 266

Finishing and shearing machinery will be shown.

(*See page 63*)

●

CORN PRODUCTS SALES CO

17 Battery Place
New York 4, N Y
Booth 295

Sizing materials for finishing equipment.

●

COSA CORP

405 Lexington Ave
New York 17, N Y
Booth 825

Among the machines to be shown at this exhibit are the following: the Arbach steaming and finishing machine; a Stork model Rope-O-Matic washing machine; a Schilde air penetration dryer; Sahm high-speed precision winder; a Kettling and Braun napping machine for knitted fabrics; a Scholl package extractor and dryer, a laboratory dyeing machine; an Erhardt & Leimer Cloth Feeder; selvedge guides; iron detector; Mettler skein-to-can winder; yarn singeing machine; double winder; and a Croon & Lucke reeling machine.

In attendance: W Swatek, European manager, Cosa; O J Guttmann, USA manager, Cosa; R H Meadows and H J Korndoerfer, sales engineers, Cosa; F Saxer, assistant manager, Cosa; G Sahm, president, Sahm; W Schmidli, sales manager, Croon & Lucke; J Nieding, engineer, Schilde; L Schmidt, chief engineer, Erhardt & Leimer; H Mettler, director, Mettler; L Meyer, manager, Mettler; S Eberhard, technical manager, Scholl; Mr Vetterlein, chief engineer, Kettling & Braun.

CRABTREE TEXTILE ACCESSORIES LTD

Colne
Lancashire, England

On exhibit: stainless-steel tubes, cones, etc, for dyeing.

●

CUSTOM SCIENTIFIC INSTRUMENTS, INC

541 Devon St
Kearny, N J
Booth 476

Featured at this exhibit will be the Quil-Chek, the Gear Runout Tester, Roll Runout Indicator, and Traveler Hardness Tester.

In attendance: H J Bultman Jr, R J Novotny.

●

DAVIDSON, MACGREGOR & CO, LTD

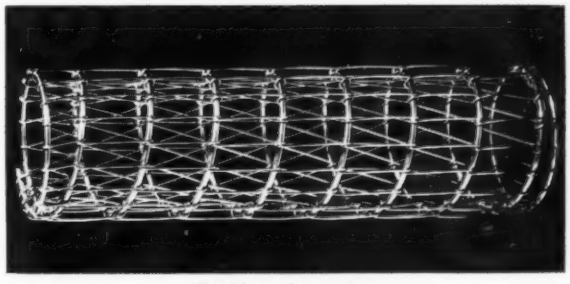
Hartley Wintney, England

DAVIDSON INDUSTRIES INC

Toccoa, Ga
Booth 1139

Exhibited will be the Davidson dye springs, which are stainless-steel dye springs of a unique construction that is said to allow longitudinal compressibility, which results in being able to load a greater number of packages in each dye machine. It is stated that the construction of the springs eliminates the need for spacers and results in automatic packaging density adjustment. Also to be shown will be the Atlas tube wrapping machine, which automatically places paper wrappers on rigid dye tubes.

In attendance: Eric B Davidson, director; Paul F Atchison, merchandising manager.



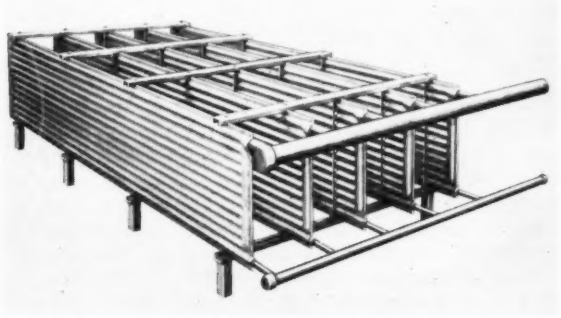
Davidson dye spring

●

DEAN PRODUCTS, INC

1048 Dean St
Brooklyn 38, N Y
Booth 123

Dean Panelcoil will be featured at this exhibit. They are applicable for a wide range of heating and cooling



Typical Dean Panelcoil arrangement for waste heat recovery

applications which will be of interest to the preparatory, dyeing, and finishing fields. It is stated that Dean Panelcoil is lighter, requires less space, has a higher BTU transfer rate than pipe coil and reduces downtime to a minimum. One of the most interesting applications is for the recovery of heat from waste process solutions as shown in the photograph. In this installation, a relatively shallow open tank is filled with rows of parallel double-embossed Panelcoil mounted close together. The hot waste solution flows parallel to the Panelcoil rows and heat transfers through the Panelcoil to the heat transfer liquid within the Panelcoil channels. This heated water is then used to preheat and maintain certain process equipment at the desired temperature.

In attendance: Walter Raskin, general manager; Rubin Raskin, sales manager; M William Ehrlich, chief engineer.

•

DUDLEY, GARLAND & JENSEN, INC

126 Gould St
Needham Heights 94, Mass
Booth 757

Gas-fired combustion system and controls for converting drying and curing units will be shown. This equipment is used where existing equipment is steam fired and higher temperatures than those available from steam are desired.

In attendance: Joseph L Dudley, treasurer; George W Garland, president; Lawrence S Holbrook and John R McIntosh, sales engineers.

•

EDDA INTERNATIONAL CORP

468 Fourth Ave
New York 16, N Y
Booths 1227, 1228, 1310, 1311

Featured will be the Henriksen Universal precision VH-Super jig. Stainless steel of acid-proof quality is used for all parts in touch with the working liquor. The dyeing vat has a dye liquor proportion of 1 to 3 when the jig is fully loaded. The dyeing vat is provided with a big valve for manual control, overflow pipe and yard stick divided into liters. A steam coil for direct or indirect heating is placed in the bottom of the vat. Over the steam coil are two guide rollers, running in easily removable stainless roller bearings. The main rollers with large diameter consist of heavy steel tubes covered with stainless steel.

In attendance: B Gudjonsson, H A Nagel, H H Thacker, H Lindqvist and others.

•

FAMATEX, GmbH

Stuttgart—Kornfestheim
West Germany
See Robert Reiner, Inc.

•

THE FLETCHER DIVISION of THE SHARPLES CORP

2300 Westmoreland St
Philadelphia 40, Pa
Booth 9

A high-capacity, 48" diameter, all-stainless-steel Whirlwind extractor will be exhibited. The extractor will feature automatic air braking with finger-tip timer control mounted on the balancing stand, and all-stainless-steel curb, curb cover and basket.

Fletcher Whirlwind extractor

•

FORTÉ ENGINEERING CO

59 Davis Ave
Norwood, Mass
Booth 37

Electronic moisture-content analyzers, for determining the moisture content of natural and synthetic fibers, will be shown. It is stated that the moisture content of any fiber may be determined in less than one minute by production personnel. The analyzers are available in a variety of models each of which is adapted to measure specific forms of material.

In attendance: S Breen, W Benson and H R Zoyotti.

Forte Model F electronic moisture-content analyzer

•

THE FOXBORO COMPANY

Foxboro, Mass
Booth 399

A new Model C-HCR CycleLog Controller will be shown which adds automatic rinsing to the traditional CycleLog control of the dyeing schedule, thus providing rate of temperature rise, dyeing temperature, holding time, rate of cooling, rinse temperature and rinse time. A working demonstration of the new pH Dynalog Recorder will be given. This instrument measures pH without the traditional preamplifier. Also being introduced in a new 160-square-inch diaphragm motor for pneumatic loading. It is stated that the use of this motor, direct connected, assures greater nip pressures

and, consequently, better processing. A new laboratory recorder will be shown which provides, on a single chart, records of temperature and dew point. Complete instrumentation for automatic chemical dilution will also be displayed.

In attendance: T A Jones, Atlanta; E R Tims, Greenville; S C Alexander, A S Warren, and W Bishop, Charlotte; G E Clark and J R Hileman, Richmond; B S Winchester Jr, Baltimore; A R Hicks and C W Hartman, Philadelphia; R E Beers, New York; C L Williams, Springfield; K L Barton Jr, Hartford; W D Carty, Albany; J S Coulter, Danvers; R M Glass and W H Ridley, Foxboro; A Grant, Montreal.

●

ERNEST L FRANKL ASSOCIATES

515 Madison Ave
New York 22, N Y

See Svetema
See Jakob Jaeggli & Cie
See Tattersall & Holdworth's

(*See page 65*)

●

GASTON COUNTY DYEING MACHINE CO

Stanley, N C
Booths 638, 639

Laboratory wet-processing equipment and parts of large production equipment, including new developments in the hydraulic pumping system, will be shown. Enlarged photographs will be displayed and technical information concerning the Avesta rapid dryer and semirapid circulating dryer will be available.

In attendance: George H Hacker, vice president and sales manager; Walter J Newcomb, sales engineer; Ray P Craig, vice president and sales engineer; Gordon Hacker, vice president and general manager; A P March, J R Angel, A R Breen, sales engineers; A R Webster, G A Rogers, Canadian sales agents.

(*See pages 42-43*)

●

GABB SPECIAL PRODUCTS CO

Windsor Locks, Conn
Booth 1204

(*See page 67*)

●

GENERAL ELECTRIC CO

Schenectady 5, N Y
Booth 408

Featured will be the Kinatrol eddy-current coupling speed variator. Its most common textile industry applications are expected to be on small range drives, individual motors, finishing machines, drive fans, slashers, warpers, and beamers.

●

GENERAL DISPERSIONS, INC
GENERAL PLASTICS CORP

165 Third Ave at East 26th St
Paterson, N J
Booth 1216

Exhibited by General Plastics will be Teflon-coated dry cans, thermo panels, and other pieces of equipment that benefit from a plastic coating on a metal surface. It is stated that Teflon-coated equipment avoids costly down-time and cleanup labor by preventing the sticking and buildup of resins, starches, sizings, dyes and other compounds.

This exhibit will also introduce new textile finishes by General Dispersions and fabrics finished with nylon dispersions will be displayed. It is stated that the nylon finishes which can be used on natural and synthetic fabrics do not need special curing cycles and are adaptable to all types of presently used equipment. It is said that the finish can be drycleaned and washed without losing its properties.

●

DAVID GESSNER CO

41 Fremont St
Worcester 3, Mass
Booth 246

Napper and shear machinery for finishing.

●

GEORGE A GOULSTON CO

80 Federal St
Boston, Mass
Booths 642, 643

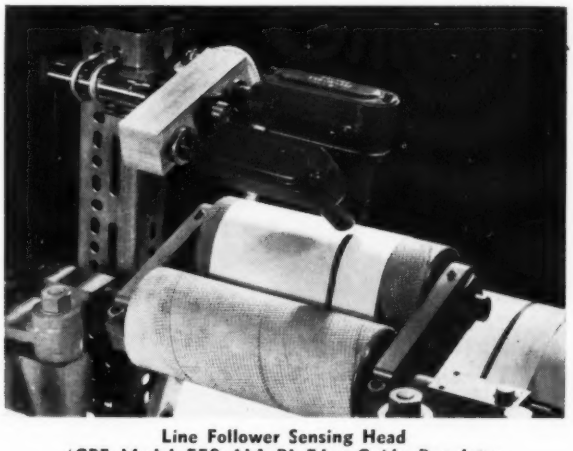
●

GPE CONTROLS, INC

240 East Ontario Street
Chicago 11, Ill
Booth 750

This display will feature instruments for continuous indication of recording of width of metal strip, paper, textiles, foils, films, etc. The following features are claimed for these instruments: noncontact—nothing touches the moving web or strip; accurate measurement to within 0.015 inch at high web speeds; remarkably simple and trouble-free; automatically compensates for lateral web weave; choice of photojet or airjet detecting heads.

In attendance: Earl Schroeder, Joe Deering, Pete Sorsen and D B Digel.



Line Follower Sensing Head
(GPE Model 558-AL1-PJ Edge Guide Regulator

●

GRINNELL CORP

260 West Exchange St
Providence, R I
Booths 51 thru 56

●

HUDSON AUTOMATIC MACHINE & TOOL CO

137-139 38th St
Union City, N J
Booth 41

Exhibited will be the Projectina Model 4014, a testing instrument for quality control and research with instantaneous recording of test data with the new Polaroid Photo-Attachment. Advantages claimed include: photomicrography made easily, all-in-one unit, easy focusing, correct exposure time quickly determined without waste of film. It can be used as a projector, comparator and microscope; as a yarn comparison

attachment, and for the examination of spinnerets. Also shown will be the Model 4016 double projector for checking two samples of fabrics side by side.

Projectina Model 4014 with Polaroid photo attachment

●

RODNEY HUNT MACHINE CO

Orange, Mass
Booths 191 through 196

The following will be on exhibit:

A newly designed rapid bleaching range for continuous open-width bleaching. Actual bleaching tests will be run.

A newly designed padder incorporating a new roll and a new pressure system for high extraction. Actual tests will be run.

A newly-designed spreader roll incorporating an entirely new principle of operation.

In attendance: J Rembe, vice president of marketing; M G Hopkins, manager, textile machinery division; D Kuniholm, manager, industrial roll division; H L Daub, assistant manager, textile machinery division; V L Wilkinson, New England sales; John Hayes, Southern sales; Lawson Hayes, Southern sales; Richard Powers, assistant export manager; H G Thompson, sales engineer.

●

JAMES HUNTER MACHINE CO
JAMES HUNTER, INC

North Adams, Mass
Booths 120-122, 252-265

Of interest to readers of *American Dyestuff Reporter* at this exhibit will be:

The Hunter continuous high-temperature wet-processing machine, which features patented pressure seals which, when placed at the entering and leaving ends of the machine, will permit continuous treatment of fabrics at temperatures well above 212°F. Seals have been tested in widths up to 72″. The machine to be shown will handle fabrics 12″ wide up to 50 psi. The Hunter psychometer for continuous testing of moisture in moving webs will be shown and featured will be the new Thermotest Rhodiaceta designed for the determination of heat effects on fabrics and the dyes and finishes that have been applied to fabrics.

In attendance: James H Hunter, president; Richard A Hunter, vice president; William F Leineweber, vice president of James Hunter, Inc; A V Moody, sales manager of James Hunter, Inc; H F Creegan, sales manager; R L Plumb, sales manager; Ernest G Cannity Jr, sales engineer.

THE INDUSTRIAL DRYER CORP

P O Box 850
Stamford, Conn
Booths 680, 681

A completely automatic "H-W" yarn conditioner will be exhibited which will be equipped so that is is possible to automatically pre-heat, condition, and exhaust or dry at the end of the operating period.

In attendance: P H Friend, J R Tutt, R G Leininger, and F W Caesar, vice president.

●

JAKOB JAEGGLI & CIE

Winterthur, Switzerland
Booth 1411

The following products will be shown:

Hydraulic beam jacks for loom beams, dye beams and warp beams for knitting machines.

Models, blueprints and illustrations of Jaeggli skein-mercerizing machines for 54″ and 90″ skeins, complete mercerizing installations including Coloras 16 neutralizing machine, etc.

In attendance: Ernest L Frankl, Gunther Frankl.

U S Representative: Ernest L Frankl Associates, 515 Madison Ave, New York 22, N Y.

(*See page 65*)

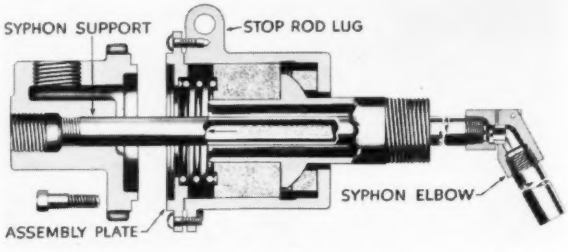
●

THE JOHNSON CORP

805 Wood St
Three Rivers, Mich
Booths 392, 393

Exhibited will be a complete line of Type "S" self-supporting Johnson rotary pressure joints with assembly plates and Johnson syphon elbows. Also exhibited will be a complete line of Type "L-JSP" rod-supported joints and elbows. It is stated that Johnson rotary pressure joints are used extensively on dry cans, print cans, calenders and singer rolls to handle steam, water, brine, hot transfer oil and Dowtherm applications. Small models of the above will be in operation. Additional exhibits include Johnson solenoid-operated valves, Johnson instant steam water heater, Johnson compressed air separators and aftercoolers.

In attendance: W R Monroe, president; T O Monroe, export sales manager; J E Dal Ponte, regional sales manager; R W Gotschall, general sales manager.



Type SB2P self-supporting Johnson rotary pressure joint with assembly plate and Johnson syphon elbow

●

JOMAC INC

6128 N Woodstock St
Philadelphia 38, Pa
Booths 43, 44

On exhibit will be a line of industrial textile rolls.

In attendance: Howard E Eldridge, vice president, sales; Jack Evo, New York City district manager; Jack Seeburger; Frank McLaughlin, Charles M Gibb, Eric Engdahl, Richard C Hughes, regional sales representatives.

Si

". . . . and how's that new spot remover coming along . . . ?"

Success is sometimes behind you; especially when you call on someone who has had wet-processing experience for over half a century.

Call us on your problems; we may have a ready answer for you. If not, we'll get to work to get the answer.

For a direct line to our Customer Service Department, pick up the phone and call TRinity 6-1797.

Warp Sizing: *Softeners, Binders, Penetrants, Ty-In Penetrants, Shuttle Dressing, Waxes.*

Wet Processing Chemicals and Auxiliaries: *Dye Assistants, Penetrants, Rewetting Agents, Sanforized Fabric Oils, Detergents, Scouring Agents, Softeners.*

Niagara Twist-Setter: *Yarn Conditioning Penetrants.*

Seyco Warp Lubricator.

Headquarters for textile chemicals

SEYDEL-WOOLLEY & CO.

748 RICE STREET, ATLANTA, GEORGIA

SEYCO

JUNGFRAU, INC
145 East 57th St
New York, N Y
Booth 1208

Screen printing machinery will be shown. Represent Buser Screen Printing and Luescher Bros.

●

KENNETT EQUIPMENT & MACHINERY CORP
Kennett Square, Pa
Booth 11A

●

KLAUDER WELDON GILES MACHINE CO
Adams Ave and Leiper St
Philadelphia, Pa
Booth 707

Reception booth. Photographs will be available.

(*See page 63*)

●

TEXTILMASCHINEN EDUARD KUESTERS KREFELD
Gladbacher Str 457
Krefeld, Germany
Booths 846 thru 849 and 911 thru 914

Exhibited here will be the Aquaroll water mangle, type 75, and the Vibrotex continuous backgrey washing machine, type 78.

Advantages claimed for the water mangle are:

The water-pressure system which allows uniform nip pressure.

Maximum water extraction results.

The Perlon fiber squeezing bowl which permits the treatment of any type fabric without harmful effect to its texture.

The Vibrotex continuous backgrey washing machine is a combination of the Kuesters washer with the Aquaroll water. It is stated that it gives exceptionally good washing effects in the Vibrotex section and maximum water extraction in the mangle.

In attendance: George Haag, president, Kragmar, Inc.

●

LOCKWOOD-GREENE ENGINEERING, INC
41 East 42nd St
New York 17, N Y
Booths 86, 87

Brochures will be available.

In attendance: S B Lincoln, chairman of the board; S B Roberts and H M Rogers Jr, vice presidents; J Z Robinette, T O Ott and W R Simpson, textile engineers.

●

LOWELL TECHNOLOGICAL INSTITUTE
Lowell, Mass
Booth 817

Educational exhibit.

●

MACBETH DAYLIGHTING CORP
P O Box 950
Newburgh, N Y
Booth 389

A complete line of color-matching Skylite units and Examolite fixtures for color shading, grading and flaw detection will be shown.

In attendance: Robert E Meeker, sales manager; Andrew Moore, technical representative.

●

MARSHALL & WILLIAMS CORP
46 Baker St
Providence 5, R I
Booths 559 thru 563, 574 thru 578

Featured will be both the smallest (or lightest) M & W tenter frame and the company's heaviest. Also shown will be a complete line of tenter frame drive units in 5 to 100 HP, all torqued for the proper load demand. A complete line of tenter clips will also be shown. Combinations of jaws, controllers, bodies, etc, including the two-piece clip will be exhibited. Other equipment on exhibit will be high-speed tenter frames, mercerizing tenters, pin tenters, tenterettes, tensionless batchers, constant tension winders, swing plaiters, let-off stands, overfeed equipment, selvage curlers, and pin plates.

In attendance: John C Nash, president; Fred H Land, vice president; James A Love, export representative; Albert J Marshall, Edward E Ford, William C Brown, Fred Hyatt, sales engineers; William Tomlinson, designer; representatives of E G Paules & Co, West coast; representatives of Rudel Machinery Co, Ltd, Canada.

(*See page 63*)

●

MATRIX CONTROLS CO, INC
P O Box 22
Somerville, N J
Booth 294

On display will be the margin meter. This instrument is used for indicating, recording, or controlling the width of moving fabric as it emerges from tenters, dryers or decaters. It is stated that, by its use, it is possible to achieve greater uniformity of width in finishing operations, and to eliminate the possibility of claims based on shipment of narrow goods. Accuracy is said to be better than ⅛".

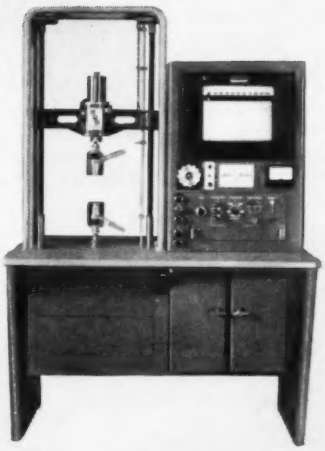
In attendance: Robert W Schooley, Harold W Scully, Tibor Kovach.

Matrix Indicator Margin Meter Model A2

●

METTLER INSTRUMENT CORP
Hightstown, N J
Booth 381

On exhibit will be a new yarn balance, known as type H-23 C10/13, which will feature three separate scales enabling the direct reading of grams, tex-units and denier all on the same balance with one simple reading. Also to be exhibited will be the Mettler precision balance, Type K-7, equipped with a scale reading in grains. It has a capacity of 8000 grains. The standard line of Mettler balances and precision scales will also be shown which, in most cases, can be adapted for grams, pounds or grains.



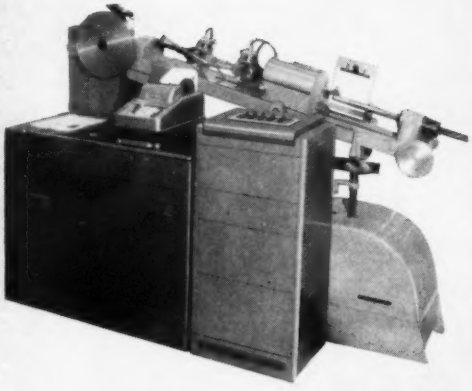
NEW PUSH-BUTTON ACCURACY FOR TENSILE TESTING!

Scott Model CRE Constant-Rate-of-Extension Tester — with its super-sensitive electronic weighing system and convenient push-button controls — takes all the work and weight-handling out of tensile, tear, seam construction, adhesion, and other physical tests in lab or production work. Convenient variability in crosshead speeds (400:1), and changes in chart speeds and test capacities are accomplished easily and positively on the centralized control panel. Model CRE provides a wide selection of test load ranges to 1000 lbs. . . . and wide controllability of crosshead speed versus recorder chart speed providing ample magnification for practically all materials. The unique visual time-to-break signal is an important built-in feature of Scott Model CRE. This tester makes use of all Scott clamps and fixtures (now incorporating a new quick-change clamp-locking design) to meet ASTM, ISO, and Industry Test Methods.

SCOTT TESTERS FOR TEXTILES

"SCOTAMATIC" MEANS AUTOMATIC CORD TESTING!

Another major Scott advance in testing tensile strength of textile yarns and cords, the Model IP-4 "Scotamatic" permits *fully automatic and unattended* testing and recording . . . for greatly reduced operating costs. Developed by the Engineering Division of Courtaulds Ltd., Coventry, England, this tester includes positive-acting controls plus electronic digital computing devices which permit continuous tests of an entire bobbin or up to 100 samples, with test data recorded immediately and permanently on tape. Operation is simple. One operator can supervise three testers simultaneously! Features include "Tensilgram" chart for picturizing stress-strain curves, and pre-established modulus-value (usually 10# for tire cord).



WRITE FOR COMPLETE CATALOGS ON MODEL CRE . . . "SCOTAMATIC" . . . AND SCOTT CLAMPS

QUICK-CHANGE SCOTT CLAMPS AND FIXTURES . . .

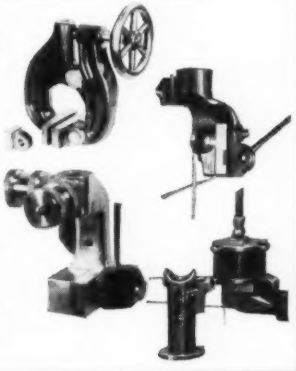
. . . all adaptable to Model CRE and other Scott Tensile Testers

FLAT GRIP CLAMPS FOR FABRIC
Here's one of many Scott Tensile Clamps (A-1) for textiles. Scott offers eleven different styles of flat grip fabric clamps for capacities to 2000 lbs.

CALLAWAY CLAMP FOR HEAVY CORDS
Widely used and universally approved for testing yarns and cords in the lab or at production. Two sizes: capacities to 75 lbs. and 400 lbs.

FLETCHER CLAMP FOR YARN
For testing fine yarns and flat materials up to ½" wide . . . up to 20 lbs. tensile.

SPRUANCE CLAMP FOR CORD
Pneumatically actuated. Helps make cord testing more automatic and totally free from operator influence. In step with today's trend to automation!



SCOTT TESTERS

THE SURE TEST . . . SCOTT!

See us at the ATME
May 23-27 • Booths 553-554

SCOTT TESTERS, INC.
63 Blackstone Street
Providence, Rhode Island

MINNEAPOLIS-HONEYWELL REGULATOR CO

Wayne & Windrim Aves
Philadelphia 40, Pa
Booths 286, 287

On exhibit will be the Moist-O-Graph system, which is a high-speed system which can measure a wide range of moisture content in fabrics during processing. The new system can use any Honeywell recorder and any Honeywell control form as part of its components. Also to be exhibited will be the low-range Radiamatic, which is an instrument for measuring the surface temperature of a moving object without touching the object itself. Other exhibits include the pneumatic Tel-O-Set system, which can measure and control any process and is designed for graphic panels or wherever panel space must be conserved; Series 800 diaphragm control valves, which are said to combine extreme sensitivity with dependable performance; the Honeywell ADRT 3020, which is a data-handling system designed for use in logging data in various industrial processes; an electric Tel-O-Set system; a Versa-Tran electronic liquid level controller.

In attendance: Robert D Clarke, textile industry sales manager; Anthony F Day, exhibit manager; Ed Klein, regional industrial manager; Jack Horner, branch industrial manager; Russell Jacobson, Connie Miller Harry McCormick, William Munz, Ralph Fishburn, Joseph Kontuly, Viv Zelov, Bob O'Reilly, H-K Ball, Win Boetcher.

•

MORRISON MACHINE CO

1171-1225 Madison Avenue
Paterson 3, N J
Booths 507-515, 518-526

The following machines will be exhibited:

Hydraulic calender of new design, 60″ face, 3-roll, 40-ton.

Dye padder, all-purpose, 70″ face, 3-roll, 15-ton

Standard finishing tenter, 30″ wide × 20′ long

Serpentine washer, 60″ face, 5-compartment with four 5-ton nips and one 10-ton nip.

In attendance: John C Morrison, president; John Kreeft, vice president, engineering; Harold Lacey, executive vice president; A V Caporossi, G Hunter, D M McSpadden, B B Scantland, and A C Freeman, representatives.

•

MOUNT HOPE MACHINERY CO

15 Fifth St
Mount Hope, Mass
Booths 426, 427

A special display will be made of the Skew-Liner, a unit which automatically solves skewed weft problems in the manufacture and processing of textiles. Another new Mount Hope product is the automatic tension control, which is adaptable to all machinery. It is stated that this unit automatically protects textiles from tension troubles. Other products that will be shown include free-wheeling expanders, floating roll guides, precision guiders, slack selvage eliminators and selvage uncurlers, web controllers, cloth-opening equipment and cloth-handling devices.

In attendance: J D Robertson, president; Homi Kapadia, director of overseas marketing; John Robertson Jr, William Gallahue, Sam Moffitt and other sales engineers.

THE NATIONAL DRYING MACHINERY CO

Lehigh Ave and Hancock St
Philadelphia 33, Pa
Booths 74, 75

On exhibit will be contruction details of structural members, insulated panels, seal-type doors, air control devices, air turning vanes and an adjustable pitch circulating fan. Displays and engineering information illustrating the principle of hydraulic tension control equipment will be hand.

In attendance: Ralph C Parkes, president; David A Colker, vice president; George J Schillinger Jr, John J Nihill and Harold E Swanson, salesmen; Jonh Hayes and Lawson Hayes, Southern representatives; B M Jones, New England representative.

(*See page 50*)

•

NATIONAL STARCH AND CHEMICAL CORP

750 Third Ave
New York 17, N Y
Booth 713

Two new products will be introduced which have been specially formulated for finishing, hand building or pigment binding under the new cross-linking concept. Designated Resyns 78-3143 and 78-3147, they are specifically recommended for use with "wash-and-wear", nonwovens, dress goods, and industrial fabrics. Also to be featured at this exhibit will be Kosol starch as a hand building component for "wash-and-wear" fabrics. It is decribed as an all-amylopectin starch, consisting of white flakes which dissolve readily in cold water to form smooth, noncongealing solutions. It does not have to be cooked and cooled. It is compatible with the customary softeners and auxiliaries and when applied cold with conventional textile equipment it is said to produce clear, flexible films which impart binding and stiffening properties. A new 64-page manual on the chemistry and industrial utilization of Kofilm starches will be available.

In attendance: J F Fitzgerald, H Olsen, J Ducharme, H Smith, E Maslanka, D Lassiter, E Gibbon, G Lanciault, S Randelunas.

(*See page 41*)

•

JOHN P NISSEN JR CO

Glenside, Pa
Booth 759

Accessory equipment for dyeing and finishing.

•

NORCROSS CORP

247 Newtonville Ave
Newton 58, Mass
Booth 469

A complete line of viscometers for process control applications will be shown. Measuring elements and receivers for recording or indicating, with and without control or viscosity alarms, will be included. Featured will be Norcross Sizeometer, which is a complete automatic system for preparing sizing in one-third the normal cooking time. The system incorporates a viscometer so that each batch is finished to the same viscosity.

In attendance: Austin S Norcross, Robert A Norcross, Robert S Davis Jr.

•

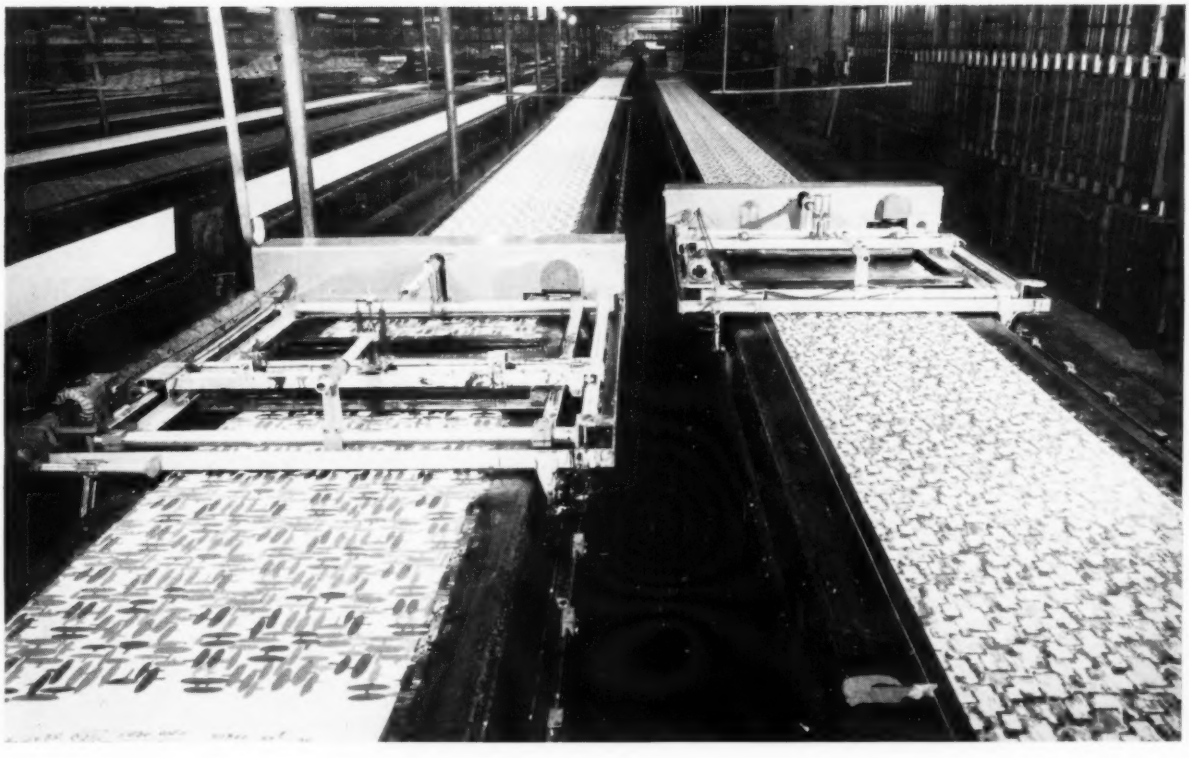
NORTH CAROLINA STATE COLLEGE

School of Textiles
Raleigh, N C
Booth 1100

Educational exhibit.

SACM

PRINTING EXHIBIT
BOOTHS 940 to 942



Presenting...

Low-Cost, Automatic Screen Printing

on existing tables

Modernize your tables with this new automatic carriage which economically duplicates the best hand operation. The carriage moves from check to check (or every other check if required), the screen goes down, the scraping is done (either in the direction of the warp or weft), the screen comes back up and the carriage moves to the next position . . . *all automatically*. When the carriage reaches the end of the table it automatically returns to its starting position at a higher speed. The accuracy of the repeat is perfect for even the most intricate fashion prints. An unskilled attendant to change the screens and feed the colors can take care of several tables. This low cost machine pays for itself in a remarkably short time. It increases or brings back profitability to screen printing on tables, which is still the best for short runs and many types of work. IN THE U.S.A. AND CANADA PLEASE WRITE TO SACM, 3 CHANNING PLACE, CAMBRIDGE, MASS.

MANUFACTURERS OF A COMPLETE LINE OF WORSTED, COTTON & SYNTHETICS MACHINERY

Société Alsacienne de Constructions Mécaniques

Mulhouse, France

EDWARD PARKINSON MFG CO, INC
Esmond, R I
Booth 609

On exhibit will be: tenter clips for all types of fabrics and operation, air and electric cloth guiders, and hydraulic tension device for constant induced tension on all types of materials and a photographic exhibit of specially designed machinery.

In attendance: Alan F Metzger, president; Harry T Prince, chief engineer, Robert H Scott, development engineer; Henry E Klepadlo, sales.

•

PARKS & WOOLSON MACHINE CO
Division of Riggs & Lombard, Inc
Foot of Suffolk St
Lowell, Mass
Booth 266

See Riggs & Lombard, Inc.

(*See page 63*)

•

PATERSON-KELLEY CO, INC
East Stroudsburg, Pa
Booth 1501

Ancillary equipment for dyeing and finishing processes.

•

PENICK & FORD, LTD, INC
1531 Marietta Blvd, NW
Atlanta 18, Ga
Booth 682

Starch derivatives for warp sizing and finishing will be emphasized at this display.

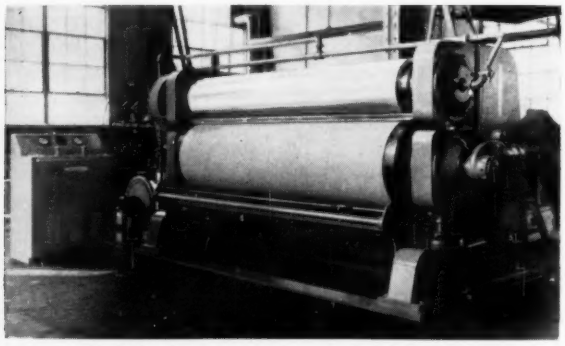
In attendance: O H Tousey and D P O'Connor, vice presidents; P G Wear, southern sales manager; G M Anderson, assistant southern sales manager; J R Heard and J P Holland, technical sales engineers; G C Henry, W J Kirby, T H Nelson, D K Smith, sales representatives.

•

B F PERKINS & SON, INC
Holyoke, Mass
Booth 163

The following finishing equipment will be displayed: two-roll hydraulic schreiner calender, let-off, wind-up, hydraulic unit, Mullen tester, batch counter, seam detector, and shrink and stretch meter.

In attendance: J L Perkins Jr, president; B F Perkins, treasurer; Marion Perkins Duryea, assistant treasurer; B P Astley, general sales manager; Eric B Norman, assistant sales manager; Kurt Zimmerli, chief engineer; B Q Haynes, mgr, Mullen Tester Div; C J Stevens and W Greenwood, engineers.



Perkins 2-roll hydraulic schreiner calender

PROCTOR & SCHWARTZ, INC
Seventh St and Tabor Rd
Philadelphia 20, Pa
Booth 579

Highlighted in this display will be a complete, all-new, compact finishing range consisting of padder, float dryer, tenter dryer, and rotary polymerizer. The padder is available in 2- and 3-roll models and is used for finishing, impregnating and dyeing fabrics of all weaves and all fibers. The float dryer will be shown as a finishing predryer, but it also has been effectively used as an intermediate dryer, as a shrink dryer after bleaching, dyeing and printing, and as a special dryer for velvets, plushes and heavily coated fabrics. The tenter dries, cures, or heat sets all knitted or woven fabrics of natural or synthetic fibers and natural-synthetic blends. The polymerizer uses a unique combination of conduction and convention heating and a novel reel-like arrangement for cloth travel and retention of from 40 to 880 yards in an extremely compact machine. The display will also feature live demonstrations of machines which are used in the areas of nonwovens, feeding and blending.

In attendance: W W Sibson and J P Wilson, vice presidents; Dr Ing Meier-Windhorst, Artos Maschinenbau, Germany; John Dalgish, John Dalgish & Sons, Ltd, Scotland; C W Schwartz IV, A G Blank, T H Wentz, E W Gehrung, W A Dickinson Jr, R E Fink, L M Christianson, R L Hendricks, D D Cunningham, J P Christ.

•

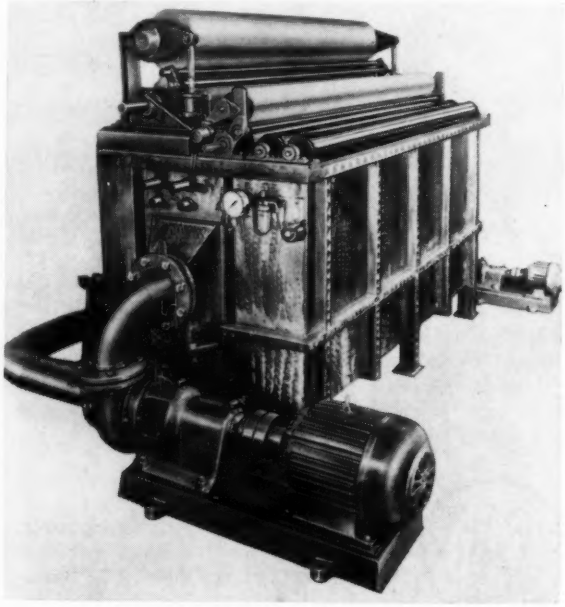
RAXHON, S A, ATELIERS
Theux-Les-Verviers
Belgium
Booth 851

Dyeing and finishing equipment.

•

REGENT MACHINERY CORP
110 West 40th St
New York 18, N Y
Booth 1533

One section of the Omez forced set washing machine



Omez forced set washing machine

A MUST SEE AT THE SHOW

REGENT MACHINERY

BOOTH 1533
ATLANTIC CITY

EXCLUSIVE DISTRIBUTOR FOR THE WORLD'S FINEST TEXTILE MACHINERY!

Exclusive distributors of:

ILMA — Skein dyeing, Package dyeing, Beam dyeing, continuous Top and Tow dyeing machines

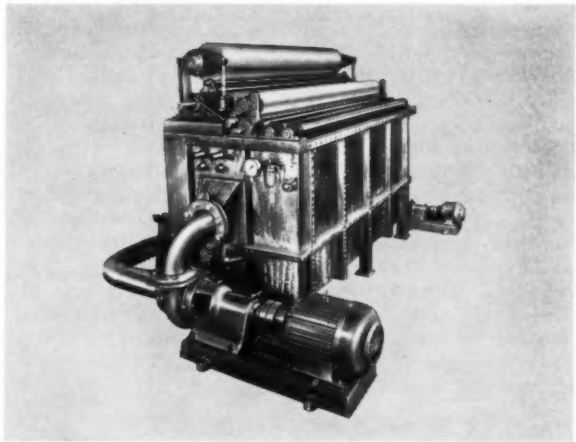
Mario Crosta — Napping, Shearing, Rotary presses, Carpet shears, Teazling — both natural and metallic

OMEZ — Open width forced jet washing machine and material handling for cloth in process

SAVIO — Winders, Skein-to-cone, Dye package, and Cone winders

G. SPEROTTO — Continuous decating machines for woolen and tubular knit fabrics

FL "Meccanotessile" COMO — Automatic screen printing, Skein, mercerizing and washing machines



OMEZ FORCED JET WASHING MACHINERY (WILL BE EXHIBITED)

NAPPING MACHINE

SHEARING MACHINE

REGENT
MACHINERY CORPORATION
110 W. 40th Street, New York, N.Y. • BRyant 9-6773

will be shown. Features claimed are: it is an open-width washer; it uses high-velocity jets for cleaning the fabric; it requires 1/10 as much water as conventional washing machines; it replaces three to four conventional washing machines; it has speeds of 160 yards per minute and up; it is exceptionally good for desizing, after-bleaching, aftermercerizing, afterprinting, and for hot naphthol soaping. Also exhibited will be ILMA package-dyeing equipment, and continuous top-dyeing machinery, Mario Crosta napping and shearing machinery, Sperotto continuous decating machinery, Meccanotessile automatic screen printing.

In attendance: Leonard H Platnick, president; F Conti of Omez; George Drago of ILMA; L Savio of Savio and Figli.

(*See page 59*)

●

ROBERT REINER, INC

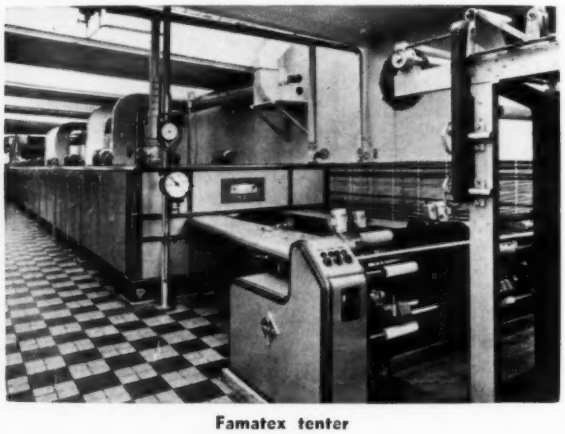
in conjunctinon with

FAMATEX GmbH

Stgt-Kornwestheim, Wtt (West Germany)
Booths 1403 thru 1407 and 1331 thru 1335

The Famatex high-production single-layer tenter, a versatile machine for the tentering, drying and heat setting of any woven or warp knit cloth of natural or synthetic fibers, will be exhibited. Advantages claimed are as follows: the low and compact housing with a total height of only 5′ 5″ facilitates the operation of the frame; the air is blown on to the fabric by nozzles from top and bottom over the entire width; wide doors in each section permit easy inspection and maintenance; screens filter out the fluff carried by the air stress; a top lifting device cuts the down time for cleaning and maintenance to a minimum. The pin-clip chain glides on strips of a graphitized self-lubricated material which does away with soiled fabrics and cuts down on power consumption. The apparatus for overfeeding and shrinking, operated with an endless cog rubber belt, is claimed to be extremely efficient and to guarantee even waves of the selvages at high overfeed ratios.

In attendance: H D Scheube and H C Feustel, representatives of Famatex.



Famatex tenter

●

RIGGS & LOMBARD, INC

Foot of Suffolk St
Lowell, Mass
Booths 266 thru 273

Equipment on exhibit will represent Riggs & Lombard, Inc of Lowell, Mass; Cook Machine Co, Inc, subsidiary of Riggs & Lombard in Lowell, Mass; and Parks & Woolson Machine Co, Division of Riggs & Lombard, Inc of Springfield, Vt. The following equipment will be shown: vibrator—to process all types of fabrics; cotton shear—new high speed; shear—for pile fabrics; fulling mill—with heat control; automatic storage scray—for straight line processing; compactor—to remove relaxation shrinkage in fabrics and to provide surface effects; Hi-Glass—items including cloth trucks and pails.

(*See page 63*)

●

EDWARD S RUDNICK

P O Box 244
New Bedford, Mass
Booth 931

Pictures, literature and fabric samples pertaining to the Ichinose automatic screen printing machine will be on display. It is stated that this machine allows for a high rate of productivity and fine degree of pattern register.

In attendance: Edward S Rudnick, North American representative; William Bowlin, Carolinas representative; T Hiki, Mitsui & Co, export-import agents.

●

SCOTT TESTERS, INC

101 Blackstone St
Providence 1, R I
Booth 553

Laboratory equipment.

(*See page 55*)

●

SEYDEL-WOOLLEY & CO

748 Rice St, N W
Atlanta 18, Ga
Booth 57

Among the types of chemicals to be exhibited will be warp sizing compounds, softeners, detergents, dye assistants, compressive shrinkage aids, mercerizing assistants, "wash-and-wear" resins, etc. Two machines will also be exhibited: the Niagara twist setter, which serves the purpose of treating bobbins of yarn with a Seyco twist setting solution to fix the twist in the yarn and thereby eliminate difficulties from filling kinks during weaving; the Seyco warp lubricator, which is designed to apply lubricating oils or waxes to the warp yarn sheet between the drying section of the slasher and the leasing section.

In attendance: Vasser Woolley, president; Paul Seydel, executive vice president; Welling LaGrone, vice president; John Seydel, secretary and treasurer; several members of the sales organization.

(*See page 53*)

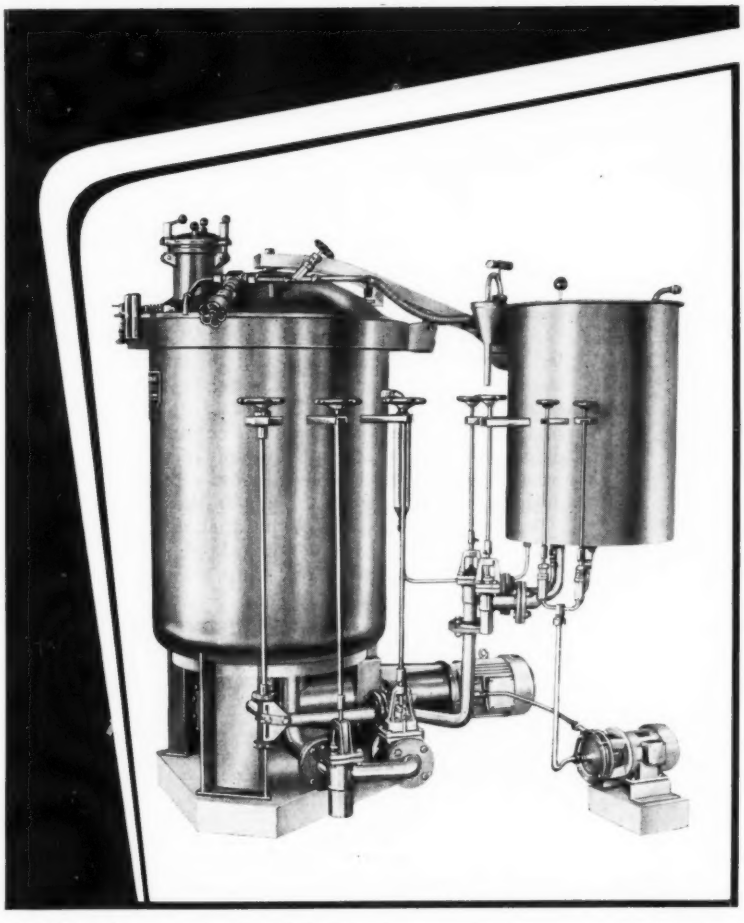
●

THE SHEFFIELD CORP

Dayton 1, Ohio
Booth 384

A new Neptel yarn imperfection counter as well as three new Micronaire instruments, including a pocket-size Micronaire that needs no connection to an air line or compressor, will be exhibited.

In attendance: William I Wilt, vice president; Hugh Brown, Clemson, S C, consultant; Jerome Price and James Heberle, engineers.



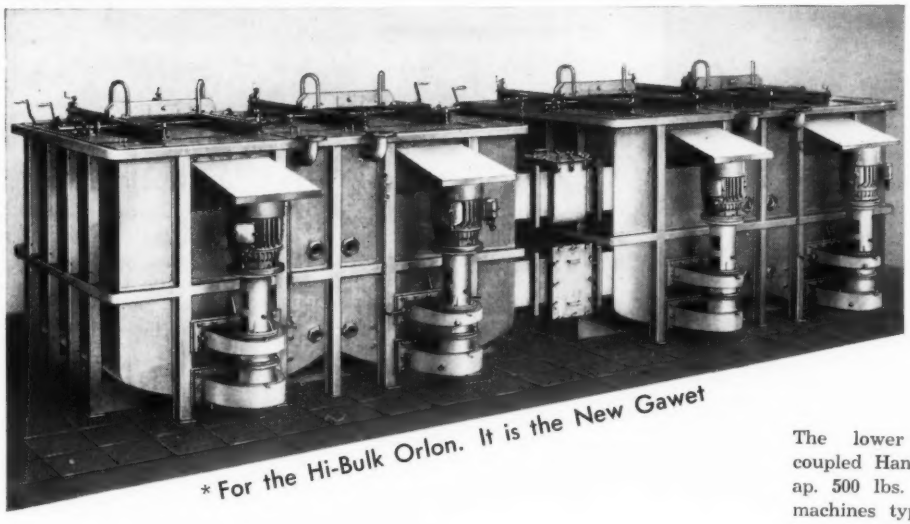
Obermaier

Turbostat

DBP and foreign patents

- **FOR ANY MATERIAL**
- **FOR EVERY FORM**
- **FOR ANY DEMAND**

This new machine type is a real universal machine, since it is suitable for all natural and man-made fibres known so far, in all forms used in modern machine dyeing. With best success the following materials have been treated so far: Cotton, staple fibre, wool and their mixtures, all hard fibres—such as linen, hemp, ramie, sisal and coir-rayon, all synthetic fibres such as Dralon, Orlon, Perlon, Nylon, crimped Nylon (helanca) etc. These materials were dyed and bleached in form of loose material, yarn on beams, card slivers on beams, cylindrical and conical packages in the tubeless system or on perforated tubes, flat cheeses and Barber Colman cheeses, card slivers in balls, cakes in the spindle or packing system, hanks in the packing system, tops on tubes, rocket cheeses etc. Especially good results were obtained just recently with Trevira Tops and Orlon tow on beams. On special tubes and carriers, ribbons, tapes and similar materials can be treated in big lots.



* For the Hi-Bulk Orlon. It is the New Gawet

The lower photo demonstrates two coupled Hank Dyeing Machines, each of ap. 500 lbs. capacity. Our hank dyeing machines type "GAWET"—new design—have been introduced in the past several years with best results in the dyehouses of the biggest woolen mills in the world and in numerous other important textile factories and dyehouses in Europe and overseas.

Feel free to contact us directly or our agents in the United States, Kragmar, Inc., 15- 4th Avenue, Paterson, New Jersey without obligations.

Obermaier & CIE. MASCHINENFABRIK • NEUSTADT A. D. WEINSTRASSE • GERMANY

THE SIMCO CO

920 Walnut St
Lansdale, Pa
Booths 610, 611

Static eliminators for all types of textile machinery will be exhibited. To be shown will be the following: metal-encased-type static bars, antistatic cleaning devices, Simco electrostatic locator, Neutro-Stat antistatic agent, and a moisture indicator.

In attendance: Dolph Simons, partner; Warren W Levy, chief engineer; Harold A Schweriner, applications engineer; William Rowedder, textile sales manager.

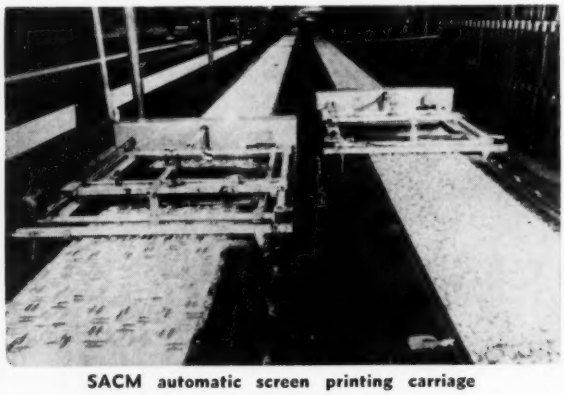
•

SOCIETE ALSACIENNE de CONSTRUCTIONS MECANIQUES

Mulhouse, France
Booths 940 to 942

A low-cost, automatic screen printing carriage for existing tables, which is said to duplicate the finest hand work, will be on display. It is stated that the carriage moves from check to check and scrapes and prints automatically. The return to the starting position is made at a higher speed.

In attendance: J Nifenecker, general manager, textile department; G Weinberger, assistant manager, textile department; John F Berry, Robert F Leslie, John L Coon, and Walter P Rutley of Atkinson, Haserick & Co, Inc, U S representatives.



SACM automatic screen printing carriage

(*See page 57*)

•

SOUTHERN REGIONAL RESEARCH LABORATORIES

Agricultural Research Service, USDA
New Orleans, La
Booth 755

Preparatory machine for cotton.

•

STANDFAST DYERS & PRINTERS LTD

Caton Rd
Lancaster, England
Booths 1341-1343

The Standfast patent continuous molten metal vat dyeing machine, suitable for cloth up to 56″ wide, will be exhibited.

In attendance: A Ogden, director; E G Stone, dyeing technician; V Hartley, development engineer; and John L Coon and Walter P Rutley of Atkinson, Haserick & Co, Inc, U S representatives.

STEELE CANVAS BASKET CO, INC

199 Concord Turnpike
Cambridge 40, Mass
Booth 293

On display will be canvas baskets, trucks, hampers, bags and specialties.

In attendance: Gordan L Whynaught and Arnold J Cecchi, sales.

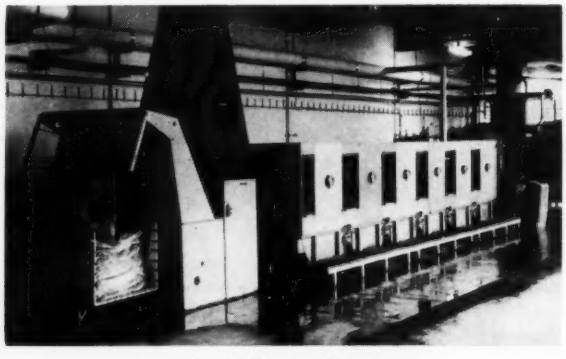
•

GEBR STORK & CO'S APPARATENFABRIEK N V

1, Boorstraat
Amsterdam, Holland
Booth 826-X

A model of the "Rope-o-Matic" aftertreatment will be shown. This machine is said to have found a wide variety of applications, one of which is for washing after printing and steaming. It is said that the Rope-o-matic makes it possible to work continuously. Also on display will be a large photograph of the Stork screen printing machine as well as cross-sections of samples giving a clear picture of the possibilities of the machine. A summary of the complete production program will be indicated on a large notice board.

U S representative: Cosa Corp, 405 Lexington Ave, New York 17, NY.



Stork Rope-o-Matic

•

STOWE-WOODWARD, INC

Newton Upper Falls 64, Mass
Booth 280

Small sample rolls used in dyeing, bleaching and finishing will be displayed. Also on display will be a full-size cotton slasher roll made with a sealskin cover, a new slasher compound.

In attendance: Asa Fisk, James Gordon, Henry Jones, Louis Schillo, Fletcher Thornton, John Dugan, Howard Jensenius, G Morganstern, Frederick Phelps and David Barry.

•

SVETEMA, A B TEXTILMASKINFABRIKEN

Gothenburg, Sweden
Booths 1326, 1327

The following equipment will be shown:

Svetema laboratory dye padder, complete with control panel, etc.

Pad-roll laboratory dye apparatus and control panel

Pad-roll bleach reaction laboratory unit

One compartment of Svetema counter-current open-width washing machine.

In attendance: Bertil Mellbin, O Holmgren, Ernest L Frankl, Gunther Frankl.

U S Representatives: Ernest L Frankl Associates, 515 Madison Avenue, New York 22, NY.

(*See page 65*)

MARSHALL and WILLIAMS CORPORATION

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ATMA Exposition
May 23rd through 27th
Atlantic City, N. J.

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Fred H. Land	Vice President
James A. Love	Export Representative
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Edward E. Ford	Sales Engineer
William C. Brown	Sales Engineer
Fred Hyatt	Sales Engineer
William Tomlinson	Designer

. . . and representatives from E. G. Paules & Co. and Rudel Machinery Company Limited

ATMA American Textile Machinery Exhibition International Parade of Progress

63-0

See newly designed tenter frame; drive units, light and heavy frames, clips in innumerable styles and combinations! As tentering specialists in original design and expert manufacture, we can show you "what's new" to improve your operation. The complete M & W line includes —

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OVERFEED EQUIPMENT
SELVAGE UNCURLERS
TENTER CLIPS
PIN PLATES & CLIPS

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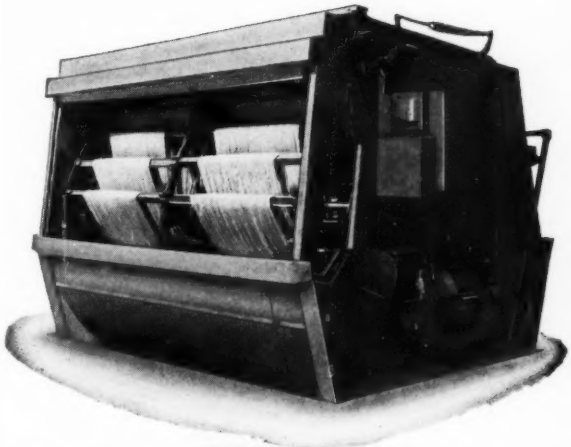


FROM DEPENDABLE KWG SKEIN DYEING MACHINES
WRITE FOR FULL INFORMATION AND PRICES

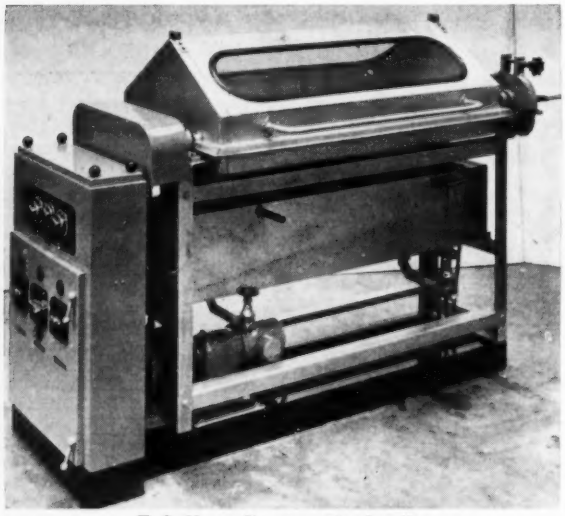
Klauder Weldon Giles
MACHINE COMPANY
ADAMS AVENUE & LEIPER STREET
PHILADELPHIA 24, PENNSYLVANIA

TATTERSALL & HOLDSWORTH'S

Oldenzaalsestraat 32
Enschede, Holland
Booth 1414

A small automatic dye jig for dyeing short pieces in full width will be exhibited. It is stated that this effects a considerable saving of dyestuffs and it makes processing according to the jig principle possible which could not formerly be accomplished because of the short length of fabric involved. Operation is similar to a full-size jig and formulations can be reproduced on plant scale. Also on exhibit will be literature on the Relax tensionless cylinder drying machine, complete with operating model of Relax drive.

U S representative: Ernest L Frankl Associates, 515 Madison Ave, New York 22, NY. *In attendance:* Ernest Frankl, Gunther Frankl.



T & H small automatic dye jig

(*See page 65*)

●

TAYLOR INSTRUMENT COMPANIES

95 Ames Street
Rochester, N Y
Booths 635-637

Featured will be the new Taylor relative humidity transmitter for the measurement of relative humidity and the transmission of the corresponding proportionate air-pressure signal. Two models provide adaptability to either room or air duct installation. An animated panel will illustrate an application of the Sensaire temperature transmittter and the 86K indicating control station. Another panel will illustrate the versatility of the Transcope pneumatic recorder and indicator. The new Ful-Flex single case controller will be shown on another five-foot panel, featuring its control of dyeing cycles. The display will also show instruments for time-cycle control. The punch-card sequencing timer, which provides instant, precise repeatability of any desired cycle, will be demonstrated in operation, as well as the Robotron timer and the condensation controller or blowdown timer.

In attendance: Harry Olson, divisional sales manager, textile sales; Leslie Van Huben, application engineer; C L Teschner, John F Waples, George Zeiters and Robert Branigan, field engineers.

(*See pages 48-49*)

TEXPLANT CORP

695 Summer St
Stamford, Conn
Booths 1032, 1033

Verilux, a new type of lighting, which duplicates natural north light, will be demonstrated.

In attendance: Albert J Lindell, president; John von Ow, assistant; M M Kaye, Verilux sales manager.

●

TOMLINSONS (ROCHDALE) LTD

Oldham Rd
Rochdale, England
Booths 1409, 1410

On exhibit will be a napping machine, fitted with the auto zero mechanism and the Shirley napping action indicator. This machine is said to provide the automatic location of the point of practical zero napping and the exact measurement of the power absorbed by the worker rollers.

U S A representative: Atkinson, Haserick & Co, Inc, Box 509, Framingham, Mass, which will have in attendance Richard R Clegg, Harold H Pomfret, John L Coon, and Walter P Rutley.

●

TRUMETER CO

38 West 32nd St
New York 1, N Y
Booth 714

Counting and measuring devices will be exhibited as well as a new type of inspection table with selvage guider made by Maag Bros, Switzerland.

In attendance: Eric Seligmann, Rene Jacobus, Tom Aydelette, J Fred Slaughter, Theodore Huston.

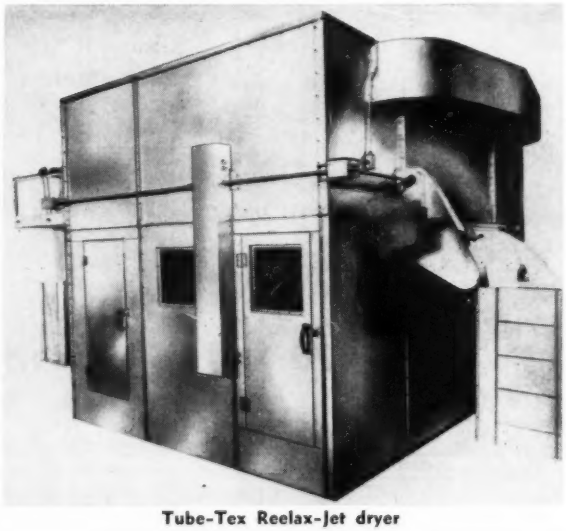
●

TUBULAR TEXTILE MACHINERY CORP

33-61 54th St
Woodside 77, L I, N Y
Booths 640, 641

This exhibit will contain a demonstration model of the Tube-Tex Reelax-Jet dryer as designed for the slack drying of broad woven goods. Various controls for accurately regulating the dryer temperature and fabric moisture will also be shown. Other Tube-Tex equipment for many specialized applications will also be shown.

In attendance: Eugene Cohn, Don Foreman, Lee Rothenburg Jr and Gene Lo Bell.



Tube-Tex Reelax-Jet dryer

SVETEMA

A. B. SVENSKA
TEXTILMASKINFABRIKEN
Gothenburg, Sweden

DYEING & FINISHING MACHINERY

- "PAD ROLL" DYEING MACHINES
- "PAD ROLL" BLEACHING MACHINES
- "RELAX" COUNTER CURRENT OPEN WIDTH WASHERS
- PAD-STEAM CONTINUOUS DYEING RANGES
- CONTINUOUS & SEMI-CONTINUOUS RANGES INCORPORATING THE ABOVE
- HEAT SETTING EQUIPMENT

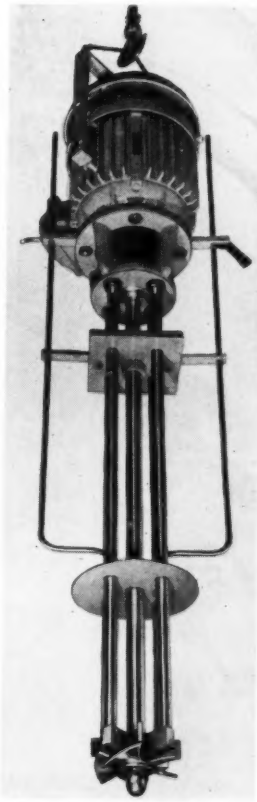
SVETEMA installations in the U. S. A. and all over the world incorporate the latest technical and chemical advances with Swedish workmanship and quality.

A.T.M.E. International
Atlantic City, N. J.
May 23-27, 1960
Booths No. 1326-1327

Represented by:

ERNEST L. FRANKL ASSOCIATES
515 Madison Avenue
New York 22, N. Y.

HOMOGENIZING JET MIXER



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For small batch processing in the lab. Equipped with ¼HP to ⅝HP, 110 or 220 volt universal motor, 60 cycle, single phase. Maximum shaft speed 8000 rpm. Speed controlled with continuously adjustable transformer.

Write for complete technical details to . . .

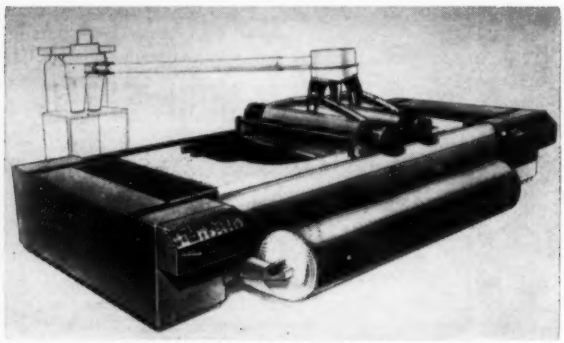
BARRINGTON
INDUSTRIES, INC.
185 Union Avenue, Providence 9, R. I.

TURBO MACHINE CO

Lansdale, Pa
Booths: 809 to 815

The following machines will be exhibited: high-temperature package dyeing machine; rotary type dyeing machine, 1960 model; carpet cross shearer, model 18; Beard tubular knit goods calendering machine.

In attendance: D Butterworth Jr, sales manager; J Stafford Sr, sales engineer; E Hughes, sales manager; W K Wyatt, vice president; A Bagian, engineer and sales manager; J Emlikian, sales representative; J Santino, technician; K Lendt, agent.



Turbo Model 18 Cross Shearer

(*See page 44*)

●

VAN VLAANDEREN MACHINE CO

370 Straight St
Paterson 3, N J
Booth 586

Dyeing and finishing equipment.

●

VENANGO ENGINEERING CO, INC

8311 Torresdale Ave
Philadelphia 36, Pa
Booth 1400

A new outboard bearing type Venango rotary dyeing machine and a single-package laboratory dyeing machine will be on display. The rotary machine is of stainless-steel construction and the outboard bearings support the cylinder and eliminate all working parts on the inside of the dye tank. A syncro gear motor drives this cylinder and the packing is of Teflon. The package-dyeing machine is furnished in single package and up to 10 package units.

Venango rotary dyeing machine

●

WERNER MACHINE CO, INC

183 Autumn St
Passaic, N J
Booth 135, 136, 137

The following equipment will be exhibited: new heavy-duty double removable beam jig for large diameter rolls; new combination tuber and examining machine featuring all-automatic edge guiding; continuous two-roll batcher; new air-controlled windup unit; three-roll tension unit; aluminum tension brakes; cloth oscillator; automatic slot sealers; air control systems; rotary slat expanders and curved rubber expanders; universal print machine fitting gear.

In attendance: Werner P Rose, Paul Frederick Rose, Alfred R Gessinger, Robert E Kuhn.

●

WINSOR & JERAULD MANUFACTURING CO

1268 Eddy St
Providence, R I
Booth 107

Accessories for finishing machines.

●

WOOLART MILLS

419 Park Ave, S
New York 16, N Y
Booth 1318

Finishing equipment for woolens.

●

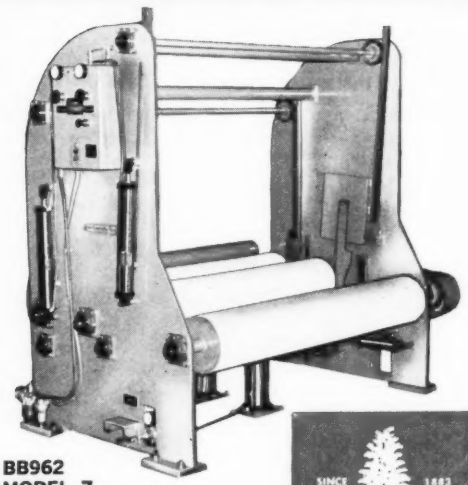
WOONSOCKET NAPPING MACHINERY CO

Woonsocket, R I
Booth 138

Napping machines for woven and knit goods.

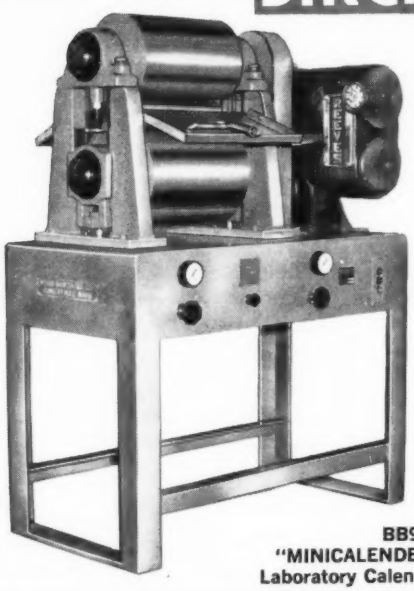
COPIES OF THIS SPECIAL SECTION ON THE AMERICAN TEXTILE MACHINERY EXHIBITION—INTERNATIONAL WILL BE AVAILABLE DURING THE SHOW AT AMERICAN DYESTUFF REPORTER'S BOOTH (NO. 758) AT THE EXTREME RIGHT HAND CORNER OF THE STAGE

UP FRONT at the Parade of Progress . . .



BB962
MODEL 7
3 Roll Automatic
Cut-Off Winder or Batcher

SINCE 1883
BIRCH



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American Textile Machinery Exhibition - International
ATMA
Parade of Progress
ATLANTIC CITY, U.S.A. MAY 23-27, 1960

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NC Governor to Open ATME-International

The Governor of North Carolina will officially open the American Textile Machinery Exhibition-International at Atlantic City May 22. The Exhibition will be open throughout the week.

Instead of cutting the traditional ribbon, however, Governor Luther H Hodges will cut through an invisible electronic ray that will instantly put into operation the most comprehensive collection of modern equipment for textile manufacture ever assembled under one roof.

Atlantic City's mammoth Convention Hall, covering seven acres, will house the first international textile machinery exposition held in the United States. Textile machine builders from twelve foreign countries and the United States will show capital equipment estimated to have cost $30 million and many years of research to develop.

Officials of the American Textile Machinery Association who met with Governor Hodges to discuss plans for Opening Ceremonies of the Exhibition said much of the machinery and ancillary equipment was being shown for the first time and all involved developments and improvements unheard of in 1954 when the last show under ATMA sponsorship was held.

Governor Hodges, whose earlier career was in the textile industry, expressed keen interest in the international aspects of the machinery exposition, which he said could be the incentive for a tremendous surge of modernization in the textile field. North Carolina is the nation's leading textile producing state with an annual textile production of approximately $2.8 billion: Its 1,000 textile mills comprise the largest corporate and individual tax source in the state.

Appearing on the Opening Day program with Governor Hodges will be Thomas C Mann, Assistant Secretary of State for Economic Affairs; Carl F Oeschsle, Assistant Secretary of Commerce for Domestic Affairs; and Clarence L Miller, Assistant Secretary of Agriculture. Each will speak briefly on behalf of their respective departments of the government.

W K Child, president of ATMA, who is vice president of Draper Corp, Hopedale, Mass, will preside. Governor Robert B Meyner of New Jersey will welcome the guests assembled from textile areas of the world at Atlantic City.

Following the Opening Ceremonies, when Governor Hodges cuts the electronic beam, an hour's preview of the Exhibition will be held. Later, ATMA will be hosts at a reception and buffet dinner honoring visiting notables.

Among guests will be top government officials, ambassadors and embassy representatives from participating countries and others having embassies in Washington; many congressional leaders; and, officers and boards of directors of all associations representing the textile industry.

Plans for the Opening of the American Textile Machinery Exhibition-International were discussed with Governor Hodges by John H Bolton Jr, vice president of ATMA, and vice president also of Whitin Machine Works, Whitinsville, Mass; James H Hunter, president of James Hunter Machine Co, North Adams, Mass, who is a former president of ATMA and currently a member of its board of directors; and Mildred G Andrews, who is executive secretary of the Association. All are members of the ATMA Exhibition Committee of which Mr Bolton is Chairman.

Seminar on Future of Textiles

Economic, financial, technological and marketing developments and implications for the textile industry in the 1960's will be discussed by a panel of nationally prominent leaders in their respective fields at a seminar sponsored by Werner Textile Consultants, New York, during the American Textile Machinery Exhibition-International at Atlantic City next week.

The seminar, which has been approved by ATMA, will be held at the Shelburne Hotel the morning of Wednesday, May 25 followed by a luncheon.

"The presentation of this seminar is designed to underscore the official 'Parade of Progress' theme of the ATMA exhibition," Jack C Werner of Werner Textile Consultants said. "By bringing the role of modern equipment into proper focus in the overall picture of profitable operations, we hope to render a valuable service not only to the machinery and equipment manufacturers, but to the textile industry as a whole," Mr Werner said.

•

LTI Alumni to Meet at Atlantic City

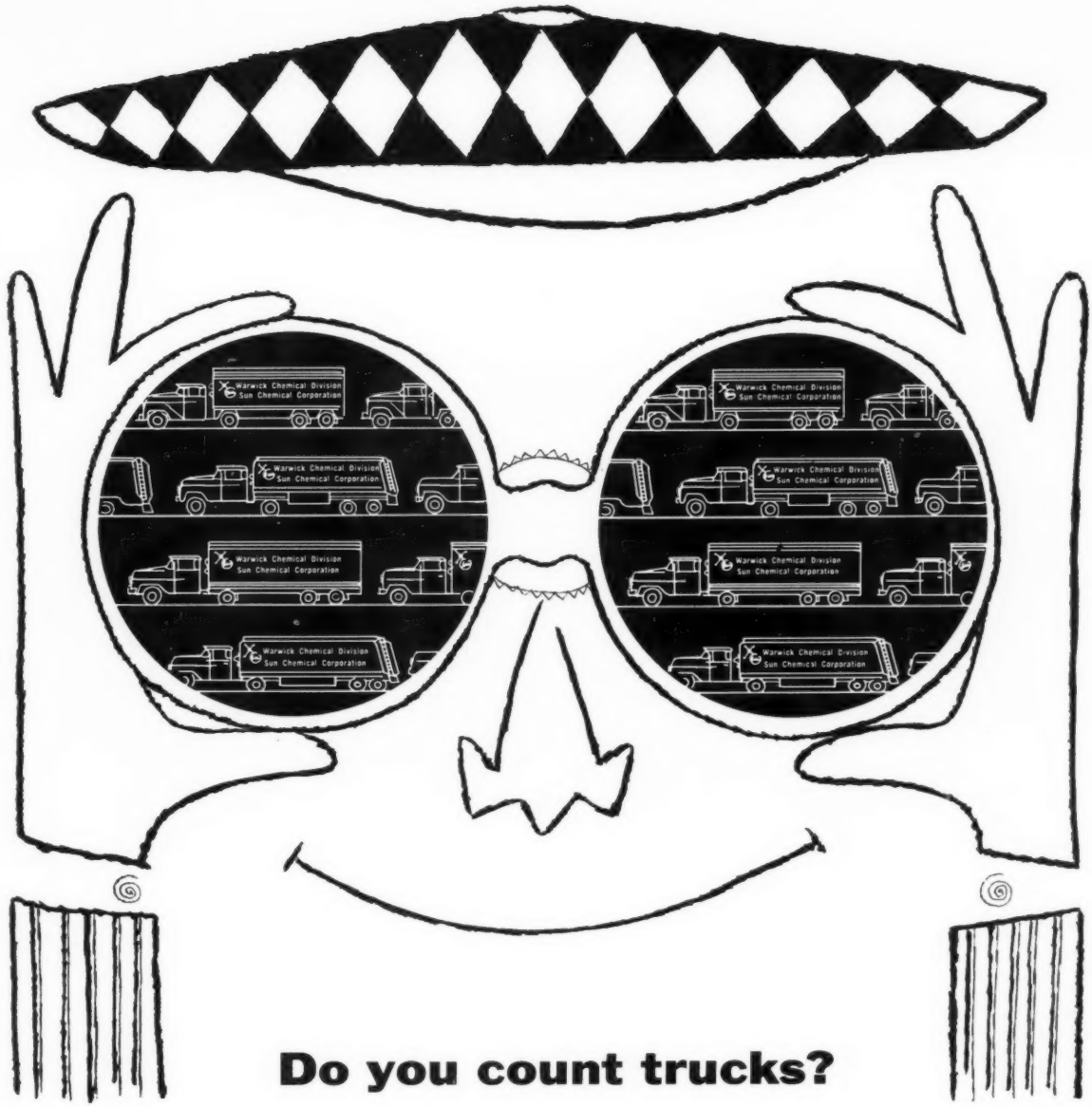
Alumni of Lowell Technological Institute attending the American Textile Machinery Exhibition in Atlantic City next week will have a reunion at a cocktail party Wednesday, May 25, from 5:30 to 8:30 pm at the Marlborough-Blenheim Hotel.

Hosts at the affair will be Martin J Lydon, LTI president; A Edwin Wells, executive secretary of the LTI Alumni Association, and Elmer E Fickett, advisory member of the alumni board of directors.

INVITATION TO AATCC MEMBERS

A headquarters lounge has been arranged at Convention Hall, Room 8, in Atlantic City for members of AATCC attending the American Textile Machinery Exhibition-International on Wednesday, May 25, 1960.

Admission cards may be obtained at the ATMA hospitality desk in the main lobby after registering for the Exhibition.



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We do because each of these trucks is a success story. Why in a single year the sale of Warwick's **WARCOFIX® 403** (dyefixing agent) jumped from drum lots to truckload quantities: **SULFANOLE® KA** (all-purpose detergent) jumped 550%: **HYDROLUX® D** (reducing agent and dye leveler for vats) jumped 1325%: **MYKON® SF** (polyethylene softener) is now being delivered in truckloads and tank wagons.

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Distributors throughout the world. For information:
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Allied Chemical

Proceedings of the
American Association of Textile Chemists and Colorists

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May 16, 1960 No. 10

38th National Convention———

THE MONFORTS REACTOR A NEW CONTINUOUS DYEING MACHINE*

JOACHIM C ROEHL
A Monforts Machine Works
M Gladbach, West Germany

The Monforts Reactor, embodying a continuous closed steam circuit, is said to represent a "revolutionary" invention for chemical and thermal reactions on textile materials under ideal conditions and in a fraction of the time previously required. The machine is compactly built as an integral unit consisting of pad, double-jacketed cylinder, endless Neoprene-faced blanket and washing, drying and heating mechanism for blanket.

The Reactor principle involves continuous passage for fabric through a special entrance pad to a steam-heated jacketed drum surrounded by an endless blanket with a smooth Neoprene surface which hermetically seals the fabric on the Reactor drum. A continuously operated washing, drying and heating mechanism is provided for both cylinder and blanket. Moisture within the fabric is generated into a steam pressure atmosphere surrounding the fabric during its passage around the cylinder.

To date the Reactor is said to have proven to be of exceptional value in the following processes: continuous desizing and open width; after print aging; in two-stage vat printing processes; development of vat colors in continuous vat-dyeing processes; dyeing with vat-sulfur and vat ester colors; dyeing with direct colors; application of azoic coupling component and dyeing with disperse dyestuffs on acetate and polyester fabrics.

INTRODUCTION

THE continuous dyeing process has been well known in the United States for many years. However, only in recent years have European mills changed more and more over to continuous processes. European machinery manufacturers, therefore, have been faced with problems of new machinery developments to conform to this trend.

A Monforts Machine Works has developed a new patented machine, introduced as the Reactor, which fits into this category of new continuous processing equipment. The development of the Monforts Reactor is aimed at meeting the demand for the continuous handling of thermal treatments and chemical reactions under steam pressure at elevated temperatures in the different processes of the textile industry. This requirement has been accentuated by the increase in the types and blends in vogue today that have not really responded to conventional processing methods.

It may be expected that considerable interest will be found for this machine in the United States, the country which has pioneered continuous-dyeing processes.

DESCRIPTION

The many uses and purposes of the Monforts Reactor have been published already in several European magazines (*1, 2, 3, 4, 5*). We are taking this opportunity to acquaint American industry with recent progress made with this rather new invention.

The machine consist of four major devices:

A) Padder
B) Double-jacketed cylinder
C) Endless Neoprene-coated blanket and continuous washing mechanism
D) Blanket preheating cylinder

PADDER———A two- or three-roll pad with pneumatic pressure can be used. The pads are furnished with very small troughs which can be heated or cooled. The pads make it possible to express the liquid in the fabric down to 50-100% of the cloth weight.

DOUBLE-JACKETED CYLINDER———The main cylinder has a diameter of approximately 100″ and is built in widths up to 104″, which allows a maximum cloth width up to 80″. The cylinder surface is coated with Teflon. The jacketed cylinder is heated by steam and is so designed that it may be heated from room temperature to 300°F in 15 minutes. Steam consumption at full load will vary between 280 and 390 pounds per hour. The temperature is controlled by means of very sensitive reduction valves. The best method of determining within the reaction space is by measuring the water condensate.

BLANKET———The blanket used is made of 8-ply cotton fabric coated on both sides several times with chemically resistant Neoprene. It has a very smooth polished surface, which can easily be kept clean and doesn't leave any marks on the cloth. It will withstand permanent exposure to temperatures of 305°F. The blanket covers the fabric and seals it hermetically against the cylinder. It is about 8″ wider on each side than the cloth. The blanket is preheated by an independently heated contact cylinder before it comes in contact with cloth being processed. A steam atmosphere is built up around the cloth between blanket and cylinder, which is called the reaction space. The blanket is kept clean and washed continuously by a special rotary brush running in hot water.

*Presented October 9, 1959 at the 38th National Convention, Washington, DC

BLANKET HEATING CYLINDER———The blanket heating cylinder can be heated with pressure steam up to 140 pounds. The blanket temperature or the temperature of the heating cylinder which can reach 305°F is controlled by reduction valves automatically if desired. The controlled temperature adjustments of the main cylinder and blanket reduce facing of the fabrics to be treated. It has been demonstrated in practice that these temperature adjustments are very easy to make.

PROCEDURES

The following processes are being practiced commercially in several textile mills in Europe and South America:

1) Desizing of open-width fabrics.
2) Aging of vat prints with hydrosulfite (Coloresin Process).
3) Development of vat-dyed fabrics.
4) Dyeing with vat-sulfur blue on cotton and rayon.
5) Dyeing with solubilized vat dyes.
6) Dyeing with substantive or direct dyes.
7) Naphtholating or treatment with azoic coupling components.
8) Dyeing with disperse dyes on secondary and triacetate and polyester fabrics.

DESIZING———The most important factor for a good desizing is thorough impregnation of the cloth. It is therefore recommended that a saturator be used in front of the Reactor instead of a pad. Bacterial enzymes are used with a Reactor temperature of 270°F. The concentration of the bath varies between one and five grams of enzymes per one liter of water. Wetting agents have to be added in the amount of one to three grams per liter of water. The cloth enters the Reactor with a moisture content of 90-100%. The treatment time is between 4.5 and seven seconds, which means a cloth speed between 110 and 70 yards per minute. When leaving the Reactor, the fabric is guided through several wash boxes. The first box contains a 0.5-1.0% soda solution. The second box contains 0.5 g/l of detergent. In the third or fourth box the cloth wll be rinsed with hot water. Temperatures in all boxes are maintained at about 195°F.

AGING OF VAT PRINTS——— Fabrics printed either on roller- or screen-printing machines run in a dry state into the pad where they are penetrated with an aqueous solution, hydrosulfite and caustic soda. Small amounts of borax, salt, alcohol and wetting agents can be added if necessary. The fabric then enters the Reactor where the reduction of the dyestuff takes place followed by the fixation with oxidation agents. The Reactor temperatures vary between 225-250°F. The treatment time depends on the kind of print, thickener, whether roller or screen print, and also on the hydrophility of the cloth. Mills using the Reactor for this purpose run at speeds up to 45 yards per minute.

The advantages over other types of agers are absence of creases in the cloth, absolutely no atmospheric oxygen inside the reaction space, no water spots and very small steam consumption.

When leaving the Reactor, the cloth is skyed to utilize cloth heat. Aftertreatment is carried out in open-width wash boxes; first box, cold rinsing, second box, oxidation, third and maybe fourth, neutralizing and soaping.

Vat prints made by the emulsion principle fix at high cloth speeds and produce very good prints. Discharge prints cannot be treated on the Reactor because the reduction time of sulfoxalate is too high. Tests with Manofast have not been made as yet, but reports in British magazines indicate that this reduction chemical could probably be used on the Reactor for discharge prints.

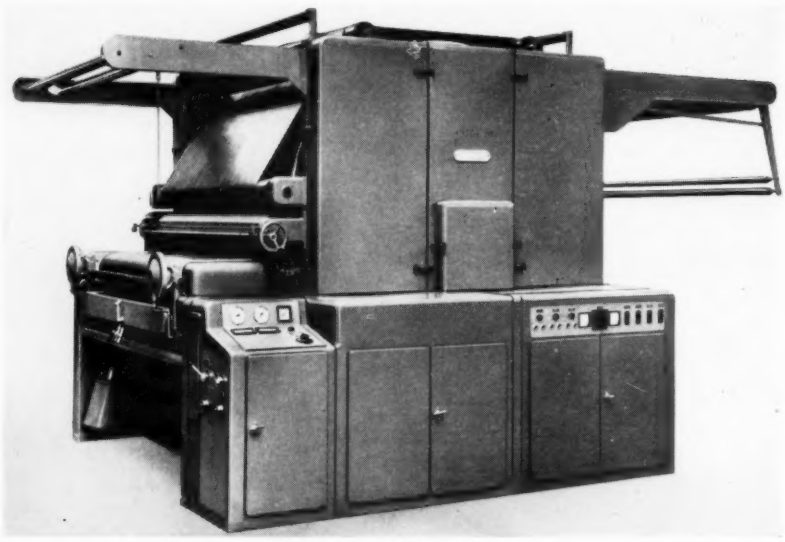
DEVELOPING OF PADDED VAT PIGMENTS———Fabrics after pigment padding are usually brought to the Reactor in a dry state. In some instances padded cloth may be treated on the Reactor without intermediate drying. However, the more common process involves the reduction after drying.

The fabrics are guided through the Reactor pad, which contains a solution of 50 g/l caustic soda, 38°Bé, 25 to 35 g/l hydrosulfite. Other chemicals, such as salt, alcohol and aldehydes, can be added. The use of a three-roll pad results in better color penetration. The distance between the padder rolls and the Reactor entering should not be shorter than three feet. To have a distance of five feet is better than a distance of two feet. Cloth speeds between 30 and 68 yards per minute are normal with temperatures between 220-235°F.

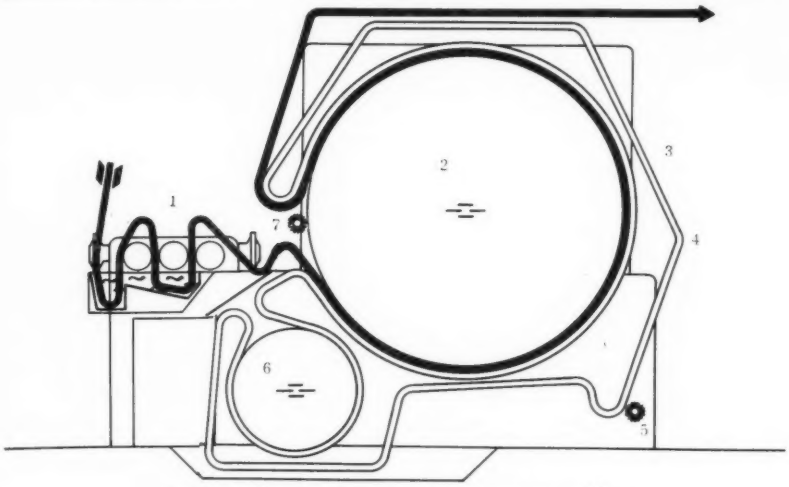
Because of these short aging times, the dyestuffs in the color combinations have to be carefully selected regarding the leuco potential and the dyestuff particle size. It is always better to use highly dispersed vats. The aging is followed by the same procedures mentioned above.

It may be mentioned that preliminary oxidation takes place during the air passage of the cloth immediately after the Reactor. This means the reduction chemicals will be completely decomposed and much less oxidation chemicals are needed.

DYEING WITH VAT-SULFUR BLUE———Two methods are used for vat-sulfur blues, such as Hydron Blue; namely, the one-step and the two-step process. In the one-step



The Monforts Reactor



Sectional view of Reactor with three-roll padder

1—horizontal three-roll pad
2—double-jacketed steam-heated cylinder
3—endless Neoprene-faced blanket
4—electro-automatic steering mechanism for blanket
5—washing brush for blanket
6—heating cylinder for blanket
7—washing brush for cylinder surface

process, vat-sulfur dyestuff is used which gives a permanent bath with hydrosulfite and caustic soda in cold state. In the two-step process, the fabric is first treated only with vat-sulfur dyestuff, then dried and developed with hydrosulfite and caustic.

On the Reactor the cheaper one-step process is preferred. The fabric is padded with vat-sulfur blue, hydrosulfite and caustic solution and guided into the reaction space. Temperatures between 235-250°F are most efficient to obtain a very good reduction of the dyestuff within 15 seconds time. Even very dense and heavy fabrics can be dyed within this short time. It is important to have a well-desized and easily wettable cloth to facilitate the dyestuff penetration. A three-roll pad is recommended. Cloth speeds for this process vary between 35 and 70 yards per minute. It may be mentioned that the fabrics can be watched very easily by checking the yellow leuco color of the vat-sulfur dyestuff at the exit of the Reactor. Therefore it is possible to recognize quickly any lack of hydrosulfite or other chemicals in the reduction bath. The Reactor treatment is followed by skying. In most cases this skying is sufficient for oxidation. If not, only a very small amount of oxidizing agent need be used, followed by the usual washing and rinsing.

DYEING WITH SOLUBILIZED VAT DYES——Fabrics are padded in the dyebath which contains, in addition to solubilized vat dyestuffs, the necessary amount of soda ash and sodium nitrite. The cloth enters the Reactor without intermediate drying for steaming. Temperatures have to be higher than 225°F. The intermediate drying is replaced by the Reactor steaming. This means we have a much cheaper dyeing process. There will be less amount of dyestuff on the surface of the cloth, which results in better dyestuff penetration. After the skying above the Reactor, the cloth is guided indirectly into a sulfuric acid bath. The sulfuric acid reacts with the sodium nitrite contained in the cloth to free nitrus acid. The dyestuff, up to this point a leucoester, is soaped and oxidized and made water-insoluble and fixed. Instead of having sodium nitrite in the dyebath, this may be added into the sulfuric acid fixing bath behind the Reactor, followed by rinsing, neutralizing, soaping and again rinsing. This whole process has to be done continuously. The cloth speed for these processes is between 35 and 90 yards per minute. It may be mentioned that, during these processes, the danger of water spots on the cloth is eliminated.

DYEING WITH SUBSTANTIVE OR DIRECT DYES——There are three groups of direct dyes, namely, fast-, medium-, and slow-fixation types. The fast group needs approximately one minute steaming time, the slow-fixation group, more than three minutes. This grouping has been made especially for the pad-steam process, which works with temperatures of approximately 222°F, compared with temperatures of more than 222°F on the Reactor. Higher temperatures therefore mean a shorter fixation time compared to the pad-steam process. For instance, dyestuffs of the "fast" group don't need a longer time than 22 seconds, which means a cloth speed of 25 yards per minute on the Reactor, which results in the same effect as one-minute steaming on the pad-steam system. If for all color combinations only dyestuffs from the "fast" group are chosen, good fabric dyeing will be obtained. Very good fastness will be achieved if a suitable cationic fixing agent is used during this continuous process. If no special chemicals for aftertreatment are used, eg, resins for crease-resistant finishes, good results can be obtained with the help of a bath which contains about 40 g/l salt and temperatures of more than 185°F, as proven by several mills.

When working with direct dyes, a danger of facing is likely only on very light weight cloth. It must be recognized that many parties interested in the Reactor are still afraid of proplems of facing on their fabrics. The efficiency of the transfer of heat to the fabric is critically affected by the composition of the contact surface. When heating up a fabric to be dyed with different materials, such as a steel cylinder on one side and a Neoprene blanket on the other, different temperatures have to be used to deliver the same amount of heat to the fabric. The specific heats of Neoprene and steel are quite different and therefore requires a control of both surface temperatures to obtain an equal or even heat exchange onto both sides, which is of utmost importance for an even dyeing. It has been proved over a long period of time from actual mill conditions that it is quite possible to obtain equal dyeing on both cloth faces. Generally it has been found that the Neoprene blanket should be about 30°F higher in temperature than the cylinder.

"NAPHTHOLATING" —— The dyeing with an azoic coupling component is done in two steps. During the first step the cloth is padded with an azoic coupling component solution and during the second step the cloth runs through a weak acid bath which contains the dye salt. By coupling of base and azoic coupling component, the dyestuff is formed on the cloth.

(concluded on page 82)

Delaware Valley Section———

"WASH-AND-WEAR" AS THE CONSUMER VIEWS IT*

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The author, in answering the question . . . "Is the average consumer satisfied with "wash-and-wear? . . . points out that "Mrs Consumer" likes the ease of care this merchandise promises, but that she complains that most garments do not live up to all the claims made for them. Mrs Consumer dislikes to "puddle" things out by hand, preferring to use her washer for all laundry. She does not believe that some garments can be worn without ironing. Garments also seem to wear out more quickly than they used to. Although she has not been completely satisfied, she hopes to obtain better-quality "wash-and-wear" with each purchase.

INTRODUCTION

OPINIONS on "wash-and-wear" are as varied as the number of people asked about these fabrics. If you ask 20, 10 will say they like "wash-and-wear" while the other 10 do not. Yet, each of these opinions has some qualifying statement, so that you end up with answers similar to these: "I think all "wash-and-wear" looks messy, but the idea is wonderful" or "Yes, I like those I've had even though they need more than a touch-up ironing!" The consumers' experiences with "wash-and-wear" are as varied as the number of garments she has. Therefore, it is difficult to say consumers do or do not like "wash-and-wear."

Generally, retailers judge the success of an item by the number of sales, while customer dissatisfaction is based upon the number of returns. However, customer returns may not give a true picture of the acceptance of "wash-and-wear". Customers have not returned great quantities of this type merchandise; in fact, they have continued to buy it being hopeful that it will get better with each purchase. You might ask why they continue to buy if dissatisfied. A friend gave me the best answer to that. She said, "Lots of us don't have much time for returning things unless they really are terrible. Also, many of my 'wash-and-wear' items are gifts, which cannot be returned." It is complicated to know where, in many retail stores, to return merchandise for satisfaction. Some retailers make it so difficult for a customer that she becomes discouraged about returning items.

Individual consumers continue to express dissatisfaction with "wash-and-wear". After two or three years' experience with it, our present consumer is more disappointed and frustrated than ever. She has become a skeptic, yet hopeful. Won't you explore with me some of the reasons why consumers like and dislike "wash-and-wear?" Many of these reasons and opinions have been contributed by friends, retailers, home economists and magazine editors. I greatly appreciate their interest and help in gathering these facts to give you.

*Presented before the Delaware Valley Section in Philadelphia, Pa on March 4, 1960

DISCUSSION

With the trend toward more casual living and greater leisure, consumers are interested in all types of labor-saving devices. They have purchased electrical cooking utensils of many types to help in preparing the family meals more quickly. Too, they have purchased new washers and driers and are anxious to use them for all their laundry. This equipment is being designed for "wash-and-wear" merchandise. At the turn of a dial or touch of a button the washer or drier goes into action. In the washer, for example, the water temperature, agitation, time, rinse temperature and spin speed can be varied to meet the requirements of a specific fabric. Now, all the homemaker needs to make this life of ease a reality is "wash-and-wear" that performs satisfactorily. Are we giving it to her?

She wants the convenience of the easy-to-maintain garments, but will not sacrifice her high standards for fit, color, design, style or performance to get this one single advantage. To the busy homemaker, a garment she can wash and wear almost immediately is a boon. Several women have commented on the ease of caring for nylon jersey dresses. One woman says,

> "It is a dream. I throw it in the washer in the regular cycle and then into the dryer at medium heat for a few minutes. I hang it up or, if necessary, wear it immediately".

Other synthetic fibers and fabric constructions are almost as easy to care for and are as popular with many customers.

"Wash-and-wear" continues to be a strong promotional aid to the retailer and equipment manufacturer. It has been good enough to maintain consumer interest, although it has not given complete satisfaction. It has been recognized as a real improvement in ease of ironing, but is a long way from no-iron quality. It provides a degree of minimum care, an improvement in maintainence of appearance. The consumer always hopes that her next purchase will be better. Technical advancement is essential if her hopes are to be fulfilled.

Overpromotion is a problem and probably will continue to be until some industry standards are established. Deterrents to the development of standards are the various opinions as to an acceptible appearance after washing. These opinions differ not only among the manufacturers but also between the manufacturer and the consumer. Perhaps we (the consumer) should not expect so much (and why shouldn't we if the ad says so), but neither should the manufacturer give us the impression that we can throw away our irons. One buyer expressed his thoughts on the subject thus:

> "The problem lies in the area of increasingly rigid definition of 'wash-and-wear' terms, and drastically stepped up enforcement of the use of those terms. I am in an excellent position to recognize the fact that we will face a handicap, at least temporarily, if we attempt to be precise in this area. On the other hand, I do feel that we should develop some sort of a guide post which the customer can actually count on, and which we buyers are not constantly undermining simply

because we know that the standards are impractical of attainment in a given fabric or garment at a certain time."

Some companies, such as ours, have their own individual standards for an acceptable appearance. Most of these standards are based on subjective ratings. Many of you may be familiar with the attempts being made by several organizations to rate fabrics objectively.

Although it may be impossible to duplicate in testing the washing methods followed by every consumer, we should take into consideration the methods used by the average. A recent survey made by the Market Research Committee of the American Home Laundry Manufacturers Association gives us an insight into this household activity. Of 4000 questionnaires sent to homemakers, approximately 1500 were returned. From these it was found that 38% of the women usually launder synthetic fabrics and cottons in the same load while 43% do so at times. This means that at one time or another 81% launder these items together. These women do an average of 7.2 washes per week.

More "wash-and-wear" items are laundered at home than are sent to the commercial laundry. The 1959 *Good Housekeeping* Consumer Panel Report based on approximately 1800 answers shows that 81% heavy-type and 92% fine-type "wash-and-wear" fabrics were laundered at home. More of the heavy fabrics were washed in automatic washers than by hand. But, laundering of the fine "wash-and-wear" fabrics was almost equally divided between the automatic washer and by hand, with the latter having a slight edge.

In general, the granule form of soap or detergent was used in preference to liquid, flake, etc. Of all brands, Tide accounted for 33% of that used for heavy and 28% for the fine "wash-and-wear" fabrics.

For "wash-and-wear" of heavy fabrics, Wisk liquid detergent was used by 68% of the respondents using liquid. When liquid detergents were used for the finer fabrics, Lux accounted for 35% and Wisk for 32%. Ivory flakes were used by 68% when the flake-type soap or detergent was used.

Of this consumer panel, 88% used a liquid bleach with 41% using it regularly and 46% occasionally.

The biggest complaint voiced by individual consumers is about some of the outrageous claims made for "wash-and-wear."

"If a woman cares at all how her family looks she can't be satisfied with some wrinkles or puckered seams. We can't throw away our irons but claims would indicate we could. Such optimism!"

This is the opinion of one customer to whom I talked.

Other opinions follow:

"Most cottons must be ironed in spite of what the manufacturer says and some are hard to press".

"Some do not conform to the label. You have to sprinkle some to iron or else they look like you took them off the line, even on drip dry".

"I feel the term is overworked and not truly representative of the fabrics' nature. Various manufacturers could vary widely in degree of wearability after washing. I hate puckered seams".

"They are excellent for children, however, one should say, wash but press before wearing".

"I object to the wrinkling caused by the spin process of my washer. The complication of so many directions—all different—for various garments causes confusion and actually complicates the laundering".

Consumers want to use and are going to use the washers and driers for which considerable money from the family budget has been spent. According to one consumer, a garment which does not go in the machine is wasteful whether the family be large or small.

Equipment manufacturers are making laundry equipment more versatile all the time. The homemaker should be able to use it for all her laundry. The textile people are still telling the consumer to "hand wash and drip dry" most of the resin-treated cottons. Wouldn't it be better to forego the elaborate claims and tell her to wash the garment by machine, hang to dry and press with a steam iron for good appearance? Consumers are looking for fabrics that are easy to care for and not those that demand drip drying or special handling in the laundry. Mrs Homemaker does not like to handle clothes that are dripping wet. She is almost as wet as the garments by the time she has hung up several of them. How much easier it would be for her to toss them into an automatic dryer! And if she has one, you can be sure she is going to use it whether the hang tag on the garment says she can or not. Another consumer says there is nothing she despises more than hand washing (not even ironing). To quote her:

"It is messy, requires time and room (who likes dripping garments dripping onto the floor?) and doesn't seem sensible when so many of us have beautiful, efficient washers in the utility room".

Some people feel that a garment is not really clean if it is washed by hand.

One home advisor reported on a questionnaire on "wash-and-wear performance checked by 565 consumers at a county fair. When the consumers were asked if they purchased "wash-and-wear" merchandise, 198 said always, 360 sometimes and seven never. To the question "Have they proved satisfactory?" the answers were: 269, always; 286, sometimes and five never. The reasons given for failures were weakened fabric by 39, yellowing of whites by 91 and had to iron their garments, 295. Although the women realized the latter reason was really not a failure, they had expected better performance.

One of the most popular garments sold as a "wash-and-wear" item is a man's cotton shirt. Therefore, to find out how the businessman feels about this item, I talked to several buyers in our office. Their opinions varied. One man says he likes the "wash-and-wear" shirts he has had and thinks they perform wonderfully well. Another says he shops around to find the untreated cotton shirts. Why? Well, his wife would have to spend considerable time and effort in washing and hanging up these garments if he takes advantage of the finish. But, if the shirts go to the laundry, he doesn't need them with a "wash-and-wear" finish. Furthermore, the "wash-and-wear" shirts wear out very quickly if sent to a laundry. Another said he bought shirts without a finish as he did not like the unpressed appearance of the resin-finished shirts. He preferred the neat, smooth appearance of shirts finished by the laundry. Although the "wash-and-wear" shirts might be acceptable at certain times, it might not be at others.

A typical woman's comment is this: "The day they make a man's shirt so that it really can be worn without ironing will be great." The more recent garments are easier to iron than the older ones, but most wives press these shirts. Unless they are pressed, the "wash-and-wear" shirts have an unfinished appearance. Could this mean that consumer ideas of a finished appearance are too rigid? Does

this mean they need to lower the standard of that "band box" appearance which they have always had?

The women who wash their husbands' shirts do prefer those with the "wash-and-wear" finish because they are easier to care for. Most women dislike ironing a shirt. In a "wash-and-wear" shirt, having only half the ironing to do is better than doing it all. Really, Mrs Consumer is very gullible. She believes what most manufacturers say on their hang tags and labels. That is, she does until she has had some unhappy experiences. Then she is more disappointed and frustrated because she doesn't know what to believe or what not to believe. She wishes the hang tags would be more honest as to the performance of the fabrics.

I think, too, we all know that most consumers do not save the hang tags giving care instructions. Therefore, consumers care for the "wash-and-wear" garments as they do all other kinds of garments, forgetting about the special care instructions which are advised for good appearance. And if Mrs Consumer tries the hand-wash, drip-dry procedure with unsatisfactory results, she throws it into the washer the next time.

Have you noticed that some of the white blended fabric shirts you have become gray and dull-looking after they have been washed by hand many times? You can't get them clean by hand washing. It is most difficult to restore these garments to their original whiteness.

One consumer with a large family says that she can't possibly remember which of her children's garments can take bleach or which must be handled this way and which that. A housewife's time is more valuable than the time it takes to wash each garment separately from the regular wash if she uses bleach. Many spots on the resin-finished cottons cannot be removed. Such a spot on a practically new garment means that it no longer can be considered "special".

Another consumer said "the cuffs and collars on my husband's shirts do hold the dirt more readily than on his older shirts".

One other indicates that "white blouses and men's shirts never look too white or well groomed".

Most of the white fabrics on the market are nonchlorine-retentive. However, occasionally a garment manufacturer receives yardage of both chlorine- and nonchlorine-retentive fabrics. He cannot tell the difference and will never know until he receives a complaint. A customer is most unhappy with a yellow garment, but she is more disturbed if her garment is made of both chlorine- and nonchlorine-retentive fabrics. Our laboratory has seen several examples of this—one we have had is a blouse on which cuffs and collars are yellowed while the rest of the garment is snow white.

Garments have been returned because of poor abrasion resistance and low strength. Several consumers say that they notice cuffs and collars do wear out more quickly on the resin-finished shirts. Pocket edges also wear out shortly after purchase.

Poorly constructed garments may be one of the reasons why the consumer is unhappy with merchandise. The tag on the garment bears the name of the fabric finisher, not the garment manufacturer. Therefore, she associates a poorly made garment with your trade name. It is important that all components have the same "wash-and-wear" qualities as the basic fabric. Puckering of seams has been a big problem. Most of the time slightly puckered seams can be smoothed with some pressing, but a consumer is unhappy when she cannot press the seams smooth.

One consumer's opinion on this subject is related to children's clothes. All the dresses in her daughters' wardrobes need to be pressed slightly after laundering. They are easy to do and quickly finished. However, there is one feature which makes her unhappy. If the garment has trim which requires a different ironing temperature or which must be removed before washing, it is more bother than it is worth.

The fabricator must gear his equipment to the manufacture of "wash-and-wear"—it cannot be a side line. Fabrics must be acceptable and styling must be right.

To elaborate on the part that standards have in the development of "wash-and-wear", I would like to explain what our company is doing. We have developed standards for our trade name, Perma Smooth. We feel that, to our customer, this name means better "wash-and-wear". The standards for use of this trade name on any merchandise include many features.

First of all, for outer apparel, the fabric shall have an appearance rating of 4 to 5 after six washings and dryings*. For the complete garment, the seams, creases, or pleats shall have a 4 to 5 rating, also. Linings and trimmings shall have a comparable appearance and the garment construction shall be satisfactory with no evidence of seam slippage or uneven shrinkage of the components.

The fabric is tested for wrinkle resistance and tearing strength on the original and after six washings, for shrinkage and colorfastness to washing and light.

In addition, any white fabric is evaluated for damage due to chlorine retention and discoloration or soil pick-up in laundering. Any garment that carries the Perma Smooth trade name must pass all these tests with flying colors. These standards are of assistance to our buying departments in evaluating "wash-and-wear" merchandise as well as to assure our customer that she receives a better quality "wash-and-wear" item. Not every garment meets these standards, but this dress and pedal pushers do.

CONCLUSION

To summarize our consumers' viewpoints—women are not impressed by promises but will return to buy your "wash-and-wear" when the performance has been satisfactory. We need to have continued improvement in finishing and more restraint by the industry in promoting "wash-and-wear". Mrs Consumer wants to launder everything in her washer and not have to pamper garments by hand washing and drip drying them.

A bargain in "wash-and-wear" may turn out not to be a good advertisement for your finish. You and I know that a good "wash-and-wear" finish costs more than a poor one. Yet advertising has led Mrs Consumer to believe that she can get an excellent "wash-and-wear" garment for pracally nothing. All factions of the textile industry must cooperate in order to give the consumer good-quality "wash-and-wear."

*See page 155 of the 1959 Technical Manual of AATCC.

Tear sheets of articles which have appeared in AMERICAN DYESTUFF REPORTER since July, 1956 are available in limited quantities. (Consult year-end indexes for list of titles). These may be obtained by sending a stamped, self-addressed envelope along with a request for the specific articles. Write TEAR SHEETS, American Dyestuff Reporter, 44 East 23rd St, New York 10, NY.

South Central Section———

PRODUCTION OF MAN-MADE FIBERS*

S L HAYES JR

Technical Service Section
Textile Fibers Department
E I du Pont de Nemours & Co, Inc

INTRODUCTION

THE textile industry can be traced back to the time of Adam and Eve when fig leaves were then the vogue. From fig leaves to the first commercial man-made fiber brings us up to 1884, the year Count Chardonnet of France introduced "artificial silk" produced from nitrocellulose. So, while the textile industry is as old as mankind, the man-made fiber industry is an infant by comparison, being only 75 years old. The growth of this industry during the last three quarters of a century has been most impressive—from one fiber and one fiber plant in France in 1884 to 30 fibers and 84 plants in the United States alone in 1959 and a world production rate in excess of six billion pounds per year.

The details of manufacture, the chemical composition, the physical properties, and the performance of these man-made fibers vary greatly. Thus we are able to identify fibers, not only by generic class in compliance with Federal Trade Commission regulations, but also within a generic class. In spite of the many differences between the man-made fibers, only three basic spinning systems are employed in their production. These are known as wet, dry, and melt spinning. The significance of these terms will become evident as I describe the production of fibers produced by these systems.

To forestall any questions in your minds as to why I am dealing with such an elementary subject, let me explain that I am taking a calculated risk. Certainly, to many of you the details of manufacture of the man-made fibers are as familiar as an old hat.

Perhaps, like that old hat, you haven't pulled these details out of your mental closet for some time. Therefore, a review might be refreshing and possibly provide a lead to solution of some of the problems in your particular field. In addition to this review, I have been asked to point out some of the areas where quality control is of paramount importance to insure delivery of a uniform product to the customer. Finally, I have been asked to do a little crystal-ball gazing and describe the fiber of the future.

*Presented before the South Central Section at Chattanooga, Tenn on Sept 19, 1959

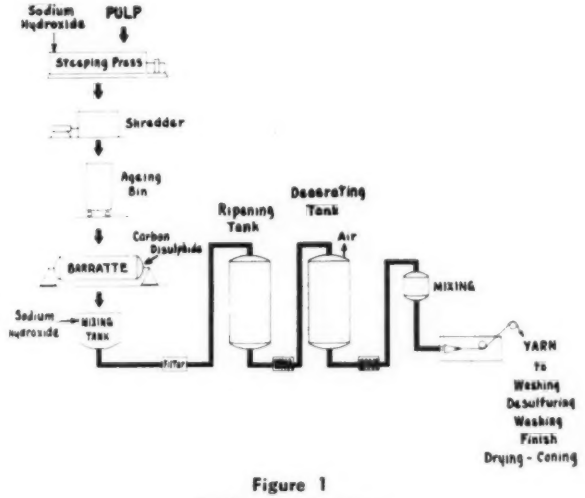

Figure 1
Production of rayon

DISCUSSION

First, let us consider the wet-spinning process. As an example of this process, I have chosen the manufacture of rayon.

WET SPINNING (RAYON)——— Cellulose, a carbohydrate found in all plant life, provides the raw material for rayon. The viscose process for manufacturing rayon is unusual in that the chemical composition of the basic raw material is the same as the finished product. The involved and complex procedures convert short cellulose fibers into long, continuous cellulose filaments with the proper balance of physical properties. A multitude of variables of this process permits considerable latitude in the design of the physical characteristics of the final yarn. This becomes quite evident when the physical properties of textile rayon yarns are compared with those of super high tenacity rayon yarns for industrial applications.

The sources of cellulose for rayon are wood pulp and cotton linters. After proper processing, the purified cellulose is shipped to rayon manufacturing plants in large sheets resembling blotting paper.

The sheets of purified pulp are placed in a steeping press and treated with sodium hydroxide to form alkali cellulose. After steeping, the sheets of alkali cellulose are pressed to remove excess sodium hydroxide and then shredded to facilitate subsequent processing.

The alkali cellulose crumbs are aged in large bins where oxidation takes place and the long chains of cellulose molecules are broken down into shorter ones. The rate and degree of change and, thus, the length of the molecular chains, are controlled by the temperature and the duration of the aging.

Next, the alkali cellulose is dumped into large revolving churns or barrattes. Carbon disulfide is introduced and a reaction known as xanthation takes place. Here, the alkali cellulose is coverted into sodium cellulose xanthate.

Xanthate, when dissolved in dilute sodium hydroxide, forms a viscous brown solution from which the yarn is spun. However, before spinning,

the viscose solution is pumped into storage tanks to ripen. The purpose of the ripening process is to provide a solution with the proper viscosity and coagulating characteristics for spinning. The solution is filtered several times to remove undissolved particles and deaerated under vacuum to remove bubbles of air. If the rayon is to be delustered, a pigment, usually titanium dioxide, is added to the mixture at the dissolving stage.

The next step in the manufacture of rayon is the spinning process. The viscose solution is pumped through a spinneret into an acid bath which coagulates the viscose and regenerates the cellulose as continuous rayon filaments. This process is called wet spinning because the spinneret is immersed in a bath. The spinneret is a small device, about the size of a thimble, containing one hole for each filament in the finished yarn. The acid bath contains sulfuric acid, sodium sulfate, zinc sulfate and glucose. The concentration of these ingredients will vary depending on the properties being sought in the final yarn. Spinning puts the filaments under tension as soon as they are formed and stretches them. The amount and rate of stretching has a decided effect on the physical properties of the yarn since it determines the degree to which the cellulose molecules are oriented. As rapidly as the filaments are formed, they are wound onto bobbins or collected in buckets.

Since the yarn coming from the spinning bath contains acid and other chemicals, it must be washed, desulfured, washed again, have finish applied, dried, and finally, packaged for shipment.

The versatility of rayon has won it wide acceptance in every phase of the textile industry. Lining fabrics, ladies' dresses, and lingerie are graphic examples of its utility. Other uses include upholstery, tire cord, industrial hose, sewing thread and power belting.

MELT SPINNING (NYLON)——— Next, consider the melt-spinning system as represented by the production of nylon. The first commercially successful, truly synthetic fiber, nylon is the result of an intensive program of fundamental research initiated by Du Pont in 1928. Nylon is composed of four elements: carbon, hydrogen, nitrogen, and oxygen. Initially, basic raw materials were obtained from coal, air, and water. Now the list of basic raw materials includes natural gas, petroleum, and such agricultural byproducts as corn cobs and cottonseed hulls.

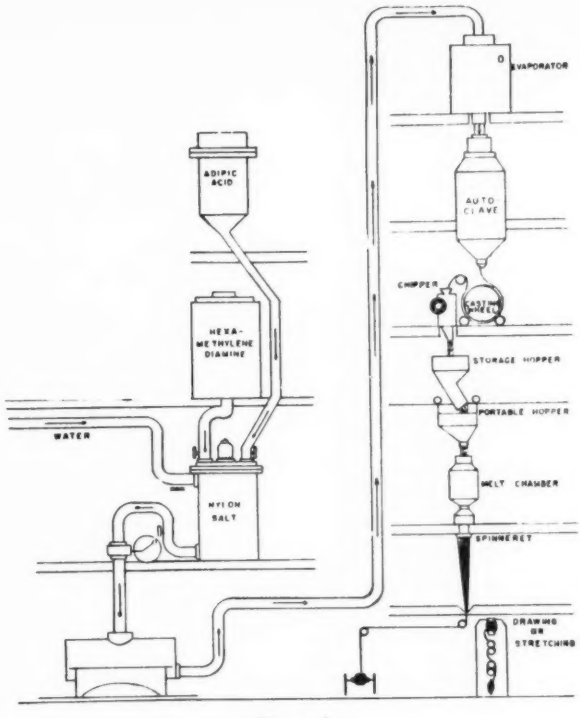

Figure 2
Production of nylon

Regardless of the starting material, the two "building blocks" for the production of nylon 66 are adipic acid and hexamethylene diamine. By high-pressure synthesis, the "building blocks" are made by a series of chemical steps from the above list of raw materials.

Adipic acid, one of the raw materials for nylon, is derived from benzene through hydrogenation and oxidation or from the oxidation of cyclohexane. Hexamethylene diamine, the other basic raw material used in the production of nylon 66, is derived from adipic acid, furfural, or butadiene through adiponitrile.

I might distinguish between nylon 66 and nylon 6 at this point. Both are polyamides. The first is derived from a 6-carbon diamine and a 6-carbon acid. The latter is derived from caprolactum which in turn is derived from a 6-carbon amino acid. My description of the production of nylon will be limited to the nylon 66 variety, but the principles apply equally to nylon 6.

The acid and diamine are combined in equal molar proportions in water to form a nylon salt solution. The salt solution is concentrated in an evaporator, then placed in an autoclave. Here, through the proper control of time, temperature, and pressure, the molecules of hexamethylene diamine and adipic acid condense to from a linear superpolymer.

The molten polymer leaves the autoclave through a slot in the bottom and is directed over a large, slowly rotating wheel where a shower of water hardens it into a wide white plastic ribbon. The strips of nylon plastic are then cut into flakes. Prior to remelting, flakes from various batches are combined and poured into large hoppers for blending. Blending polymer batches helps assure the production of a uniform fiber.

If a yarn with a dull luster rather than the bright luster of unpigmented nylon is desired, a delusterant such as titanium dioxide may be added during the polymerization cycle.

After blending, flake is fed (in the absence of air) onto a melting grid. The molten polymer is conveyed into a funnel-shaped chamber where it is extruded through a spinneret into nylon filaments.

As the filaments are extruded, they are solidified by a current of cool air, pass through a steam conditioner, finish is applied, and finally, they are

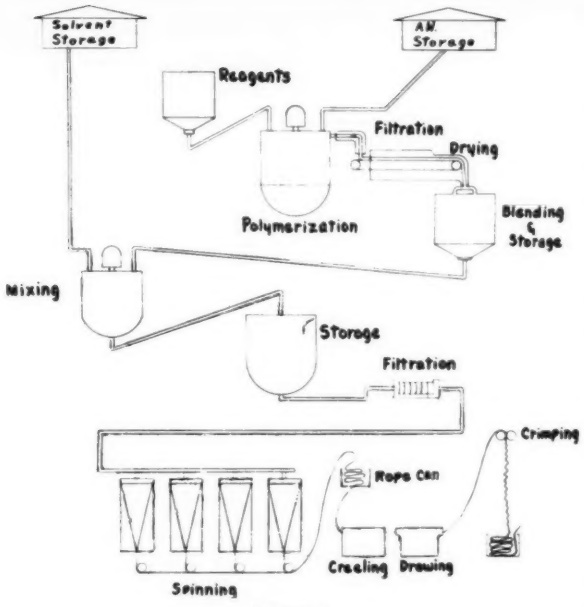

Figure 3
Production of Orlon

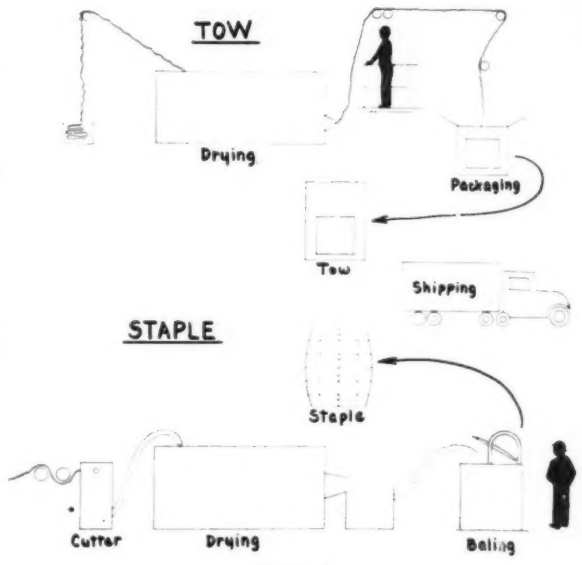

Figure 4
Production of Orlon

wound on a suitable package either as monofilament or multifilament yarn. The yarn is stretched or drawn between a system of rollers revolving at different speeds. By drawing, the arrangement of the linear molecules is changed from a haphazard one to an orderly arrangement in which the molecules are oriented parallel to the axis of the filaments. The drawing step plays an important part in determining the physical properties of the final yarn.

The process just described covers filament nylon. The production of staple is quite similar. A "rope" of undrawn filaments is drawn and crimped to form nylon tow. The tow may be sold as is or may be heat-set prior to packaging. Staple is made from the tow by cutting to the desired length. It is then packaged in bales for shipment.

Nylon is used by the textile industry in countless applications from sheer hosiery to sturdy industrial ropes. Multifilament yarns provide a pleasant surface texture to dresses, lingerie, blouses, and upholstery. Monofilament yarns find use in veils, gowns, and, of course, hosiery. Staple is used extensively in carpets and as a reinforcing fiber. Industrial applications for nylon include tire cords, ropes and coated fabrics.

DRY SPINNING (ORLON)——The third system, designated as *dry*, is employed in the production of Orlon acrylic fiber. Again, the chemist looks to coal, air, water, and petroleum, and, in addition, limestone, to form the basic raw material, acrylonitrile, for the production of Orlon. Acrylonitrile is formed by the reaction of ethylene oxide or acetylene with hydrogen cyanide.

The technique for producing polyacrylonitrile was known for many years before a method was found to produce a fiber from it. A major stumbling block in this case was finding a suitable solvent. Polyacrylonitrile had been described as intractable, infusible and insoluble. I might add that the fiber first produced from polyacrylonitrile soon acquired the tag "undyeable" as well. Fortunately, this is no longer true. Orlon became a commercial reality with the discovery in the Du Pont laboratories of suitable organic solvents and processing conditions. Commercial production started in Camden, SC, in July, 1950.

Acrylonitrile monomer along with certain other chemicals is pumped from the storage tanks to the reactor, where in the presence of a suitable catalyst and under carefully controlled conditions of time and temperature, polymerization takes place. The resulting polymer, a soft white solid, is separated and washed from the reaction mixture. The polymer is then extruded in the form of "noodles" and dried. Dried polymer is blended and stored for future use.

To make a solution which can be spun into yarns, the polymer is mixed with a solvent (dimethylformamide) at which time pigments may also be added to change the luster or color of the final yarn. Before going to spinning, the solution is filtered to remove any undissolved polymer.

Filtered solution is accurately metered to and forced through spinnerets. The solvent is evaporated by a current of hot inert gas, leaving a dry yarn, hence the term *dry spinning*.

All of the threads from one side of a spinning machine are combined to form a rope which is run into a large can. The rope in several cans is creeled, extracted to remove residual solvent and drawn. Finish is applied and then the rope is crimped to aid in processing and to add bulk to the fiber.

In the production of the tow product, the crimped rope is laid down on a continuous belt dryer, then put into cartons in an orderly manner to facilitate easy removal. For the production of staple, a cutter is inserted between the crimper and dryer. The tow is cut into prescribed lengths, yielding staple suitable for the many spinning systems in use today. The staple is dried, opened, and baled for shipment.

Along with its warmth and appealing texture, Orlon offers strength, good abrasion resistance, inherent mothproofness, good resilience, and

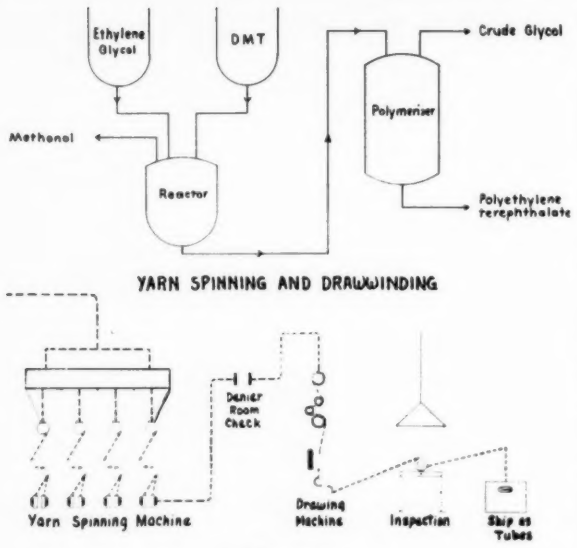

Figure 5
Production of Dacron

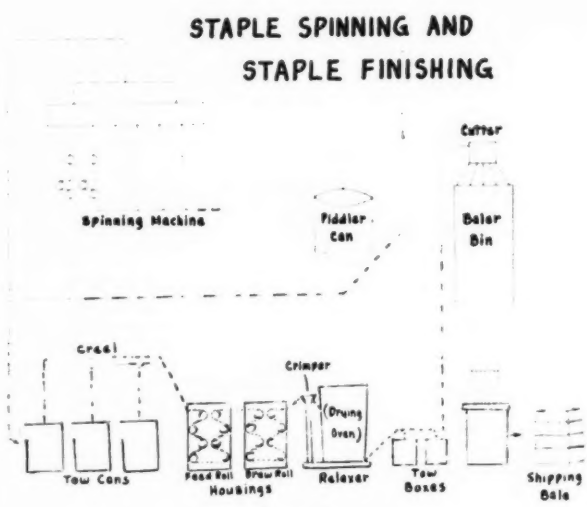

Figure 6
Production of Dacron

recovery from wrinkling. It has unique properties that make it ideal for end uses such as sweaters, blankets, jerseys, woven suitings, dress fabrics, and deep-pile coating material.

MELT SPINNING (DACRON)—— Finally, I would like to discuss the production of Dacron polyester fiber, which is made by a melt-spinning process in a manner similar to that used for nylon. Like nylon, Dacron is dependent on compounds derived from coal, air, water, and petroleum for its "building blocks'. However, here the similarity ends, for Dacron was especially developed to fill textile needs not met by existing fibers.

Dacron fiber is the end product of a polymerization process using dimethyl terephthalate and ethylene glycol as the basic raw materials. You may recall that ethylene glycol is also the principal ingredient of permanent antifreeze. I remember when shirts of Dacron (then called Fiber V) were first offered in Wilmington. I accompanied a friend to a local department store and we expressed an interest in this new fiber. We questioned the sales clerk about the dyeability of Fiber V and were told, "Of course, you can dye it. Fiber V is made from antifreeze; you've seen purple antifreeze, haven't you?" I am sure this audience will agree that dyeing Dacron is a little more complex than coloring antifreeze. Certainly, vast improvements have been made in the dyeability of Dacron since commercial production began in 1953.

Ethylene glycol for the manufacture of Dacron is obtained from ethylene and the dimethyl terephthalate from p-xylene. The ethylene glycol and dimethyl terephthalate are introduced into a reactor where they react by ester exchange to form monomer. The monomer then flows to the polymerization vessel where, by controlled pressure and temperature cycles, polymer suitable for spinning is produced. A delusterant, titanium dioxide, is added if desired during this polymerization cycle.

To produce filament yarn, molten polymer is metered through the spinneret (where the denier and number of filaments are controlled) and quenched by cool air. Finish is applied and the yarn wound on bobbins.

The yarn is then drawn approximately four times its original length and wound on tubes. This drawing operation governs to a large extent the physical properties of the final yarn as it increases the tenacity, lowers the elongation, and yields a very resilient fiber by causing molecular orientation along the fiber axis.

The tubes are inspected, packed, and shipped to the customer.

The production of Dacron tow follows the same route as the filament yarn through the application of finish. At this point, the stock is placed into cans for transportation to the drawing area.

Several piddler cans of rope are fed to a drawing machine where, under the influence of heat and tension, the rope is drawn. Next, it goes to the crimper and then to the drying oven where the rope relaxes and acquires a heat-setting for the crimp.

The relaxed rope is packed into cartons and shipped to customers as tow. Some tow is cut into staple and then baled.

Dacron fiber is primarily responsible for the tremendous success of "wash-and-wear" apparel today. Its natural crispness, whiteness, and sunlight resistance make it excellent for curtains, and the lively resilience of Dacron adapts it to use as a filling for pillows, comforters, and sleeping bags. Industrial applications include power belting, filter cloth, sewing thread, hose and ropes.

PRODUCTION TECHNIQUES AND QUALITY CONTROL—— Quality control for all of these fibers starts at the receiving dock and continues until the yarn is placed on the shipping platform. The chemical composition of all of the starting materials must meet exacting specifications. Thus, the wood pulp, sodium hydroxide, sulfuric acid, etc, used in the manufacture of rayon; the adipic acid and hexamethylene diamine for nylon; the acrylonitrile and dimethyformamide for Orlon acrylic fiber; and the ethylene glycol and dimethyl terephthalate for Dacron polyester fiber all must be analyzed to insure that harmful traces of impurities are not present and that the compositions meet predetermined rigid standards. Traces of impurities can cause weak yarn or discoloration, and may interfere with the polymerization reaction. For example, in the case of

the intermediate, adipic acid, for the production of nylon, the melting point, color, neutralization equivalent, steam-volatile acids, and ash content are determined. The steam-volatile acid content must be low because these acids act as chain terminators in polymer preparation. Undesirable color will result from inorganic impurities as indicated by ash content. For all fibers, every step in the process is rigidly controlled by exacting chemical analysis performed by trained laboratorians in modern well-equipped industrial laboratories.

Modern instrumentation is utilized to the maximum extent possible in order to insure product quality. Time and pressure cycles have been worked out for each process and these must be adhered to very closely or wide variations in yarn properties including dyeability will result.

Concentration of reactants, polymer solutions, spinning solutions, additives, and finishes are under constant surveillance. All processing vessels are made of corrosion-resistant materials. Yarn contact surfaces are examined on a routine basis and corrective action taken where necessary.

Finally, we come to the yarn itself, where quality control is as precise and critical as at any earlier stage of production. Filament yarn packages are inspected for broken filaments, bruised yarn, stains, or other off-standard conditions. Visual examination is backed up by physical and chemical tests of denier, filament count, tenacity, elongation, finish content, luster, dyeing variation and many others. The staple and tow products receive similar scrutiny. Staple testing is conducted under conditions and on equipment which duplicate customer operations in order to control quality. Obviously, the fiber producer cannot test every inch of every yarn on every package. He wouldn't have any yarn for shipment. So, statistical sampling is employed to insure that the data obtained represents the property of the yarn lot.

The purpose of all of this inspecting, checking, and rechecking is to come up with a uniform high-quality product—a product whose processing and dyeing characteristics we can predict and thus assign a merge number to. Merge numbers are assigned to all of our textile fibers.

A merge number is a means of identifying those fiber packages which have similar quality and processing characteristics. All shipments of a given fiber having the same merge number are similar in physical properties, color, luster, dyeability, processing, and end-product characteristics and can be used interchangeably in a customer's mill. Where the merge numbers of a given product are not the same, the fibers or yarns should not be mixed until the processor has satisfied himself by his own tests that the mixed merges meet his equipment and end-use requirements.

FUTURE———So much for production techniques and quality control. What does the future hold? Is it possible to describe *the* fiber of the future?

Several years ago there was a motion picture produced in England called "The Man in the White Suit". If you had the pleasure of enjoying this comedy, you will recall that Alec Guinness played the part of a young scientist who discovered *the* fiber of the future. For all practical purposes, this fiber was completely indestructible. An acetylene torch was used to cut this miracle fiber. You couldn't tear it, wear it out, or abrade it. Creases remained in place. There was never a sign of a wrinkle. Spots, stains, and dirt never found their way to this fiber. Incidently, there was no way to dye it either. You can imagine the turmoil that would be generated by such a monster. One suit would last a lifetime. You would never have to press it, clean it, or repair it. In the movie, many devious methods were empolyed to keep this fiber off the market. The script writters saved the textile industry by having the fiber disintegrate in a very short time, so that the man in the white suit was left in his birthday suit.

The point I want to make in recalling this movie is that there is not and probably never will be an all-purpose, miracle fiber, because no fiber could possibly meet all the varied requirements of the textile industry. To say that the textile industry is highly diversified is certainly understating the case. The application of a particular fiber may lean heavily on the aesthetic properties such as drape, hand, texture, coloration. Another application may require "easy care", crease retention, wrinkle resistance, "wash-and-wear". Bulk and warmth are needed in winter clothing while light functional fabrics are demanded by the consumer for summer wear. Ability to take a permanent set is important to seamless hosiery and tricot lingerie. Lightfastness and resistance to light degradation may determine the acceptability to the curtain, drapery, and upholstery trade. The industrial applications are equally diverse. High strength is required for certain end uses; fatigue, abrasion, chemical and heat resistance are necessary in others.

Combinations of the functional and aesthetic properties just described and others not mentioned are required to varying degrees in the many end uses found for fibers.

Historians tell us to look to the past to predict the future. I think this can be applied to fiber business as well. Ten years ago there was one fiber producer making nylon 66 in the United States. Today, we have both nylon 66 and nylon 6 available and being produced by eleven different concerns. Ten years ago, the acrylic and modacrylic fibers could claim only two producers. Today, they number five. Ten years ago, there were no polyester fibers; today there are four. The increase in man-made fibers outside the United States also has been large. But merely listing the fibers available doesn't tell the whole story, for changes have been made to existing fibers to adapt them for specific end uses.

A brief look at some of the developments that have been introduced during the last two years involving rayon, nylon, Orlon, and Dacron will illustrate the trend towards designing a fiber to do a specific job. Fashion yarns, as exemplified by Ondelette randomly slubbed rayon yarn, afford the fabric designer many new opportunities.

Perhaps the most striking example of making the fiber fit the need is Du Pont 420 nylon staple. One might expect to obtain an increase in strength and abrasion resistance of cotton fabrics by blending cotton and small amounts of nylon. The improved abrasion resistance is realized, but not the strength. Actually, the strength decreases. A closer look at the fiber properties showed that, at the breaking elongation of the cotton fiber, the nylon contributed only partially to the yarn strength. Thus, a nylon staple was developed with load-elongation properties which complement those of cotton in the finished fabric. This was accomplished by increasing the stretch resistance of the nylon so that its tenacity was greater than that of cotton at the breaking elongation of cotton. Now you can obtain improved strength and

abrasion resistance by blending cotton with Du Pont 420 nylon staple.

Continuing along the approach of designing the fiber to fit the need, consider Orlon Type 38 acrylic tow. This product can be dyed, stretched and cut to produce staple which will shrink as much as 38 percent when subjected to heat. This property makes it ideally suited for two-pile-height coating and lining fabrics. On the other end of the shrinkage scale, we have Orlon Type 25 designed for blending with cotton or rayon. In addition to having lower shrinkage than regular Orlon, the new Type 25 has significantly improved initial whiteness and improved whiteness retention for the unbleached product.

The engineers have turned their talents toward Dacron polyester fiber as well as the others. Thus, the properties of regular Dacron staple were altered to yield Dacron Type 64 staple. This is a more dyeable product having an affinity for selected cationic as well as disperse dyes. In addition, improved pill resistance has been built into this fiber, which makes it ideally suited for broad usage in the worsted-type-suitings field. Industrial applications have not been neglected in designing fibers. The producers of nonwoven felts have available to them Dacron Type 61 polyester staple, a high-shrinkage product. They can now take advantage of the chemical and physical properties of Dacron in many industrial applications.

CONCLUSION

I have listed only a few of the many developments involving four fibers over the past two years. There are many other examples from other companies which illustrate the trend towards designing the fiber to meet the requirements of a specific end use.

This, I think is the key to what we should expect in the future. The engineering approach to the design of fibers, fabrics and garments is receiving an ever-increasing following. New fibers and modifications to existing fibers which have been "custom built" to satisfy a specific end-use requirement will dominate the scene. There will be greater interest in blends to take advantage of properties not found in one fiber but found partly in one fiber and partly in another. No, we won't have "The Man in the White Suit", but rather in Joseph's coat of many colors and many fibers.

Monforts Reactor———

(*concluded from page 73*)

The dye base has to be cooled in most cases with ice. Therefore it can be understood that only the "naphtholating" is possible on the Reactor, which is done at cloth speeds up to 90 yards per minute and temperatures up to 265°F. This Reactor process is much cheaper and gives more uniform dyeing than conventional procedures. To repeat the whole process, the cloth is "naphtholated" on the padder, steamed on the Reactor, and run continuously into aftertreatment boxes. The first aftertreatment bath contains the cooled dye salt. In the second box the cloth is rinsed in cold water, and in the next boxes, neutralized with soda ash and soaped. Very good crockfastness and excellent penetration are obtained. The differences regarding the substantivity of the azoic coupling components can be overcome by temperature regulations of the liquid bath of the Reactor padder between 60 and 175°F. It has been found that dyeing with azoic coupling components on the Reactor results in savings up to 70% of azoic coupling component base compared to the jig method.

DYEING WITH DISPERSE DYES———It is well known that disperse dyes require a relatively long time to penetrate acetate, triacetate and polyester fibers. This time is influenced by the temperature of the dyebath. In practice, 30 minutes to three hours are required for satisfactory penetration. In addition, due to heat sensitivity of secondary acetate, it is not feasible by normal procedures to use temperatures above 200°F for a long period of time. In most cases, the dyeing temperatures for acetate are between 175°F and 185°F. Many attempts have been made to dye acetate fabrics under high-temperature conditions, but those tests have not been successful because of the long time required to heat the dyebath. On the other hand, since the Reactor works continuously under high-temperature conditions, the time for loading and heating up requires only seconds. Under these conditions, the diffusion of disperse dyes into acetate fiber depends mainly on the moisture content of the fabric.

If a lightweight acetate fabric and subsequently a heavier weight acetate satin are passed through the same pad bath and fixed on the Reactor, a differential dye fixation on the goods will be observed. Therefore, we had to try to maintain the moisture content during the moisture process by means of thickeners or hygroscopic materials. These experiments resulted in the conclusion that all secondary acetate fabrics can be dyed at Reactor temperatures of 240°F and a processing speed of 20 to 30 ypm. Good fastness properties are achieved, provided the dyestuffs are carefully selected. It is essential that disperse dyestuffs of low particle size be used and they be well dispersed.

Surprisingly, the luster of acetate fabric is unaffected by dyeing at temperatures of more than 212°. Preliminary work on the Reactor indicates that continuous dyeing of fabrics of secondary acetate, Arnel triacetate, polyester yarns and blends of these fibers has been promising and indicates that processing of commercial production is entirely feasible.

It is advantageous to keep the distance between padder exit and Reactor entrance as great as possible to facilitate a penetration leveling of the dye liquor within the fabric.

The type of the pad construction, the pad pressure used, the length of the dip, and prevention of touching any rolls after padding are of great importance for the quality of the dyeing.

CONCLUSION

Not all of the possibilities for the use of the Monforts Reactor have been discussed in this paper. Likewise, not all of the possibilities of the machine have been explored. The Monforts Reactor is primarily a machine for exposing textile materials to very hot, wet conditions for short periods. In general, many of the established procedures for the application of dyes and chemicals to fabrics may be quickly adapted to this machine. There is no doubt that this machine will find a prominent place among the equipment of the dyehouse of the future. Just in what processes it will find its greatest use must be left to the future and the ingenuity of the modern dyer.

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Delaware Valley Section

Senior

Thomas Bell—Vice pres, gen mgr, Klauder Weldon Giles Machine Co, Philadelphia, Pa. Sponsors: T H Hart, D R Serra.

Morton Zive—Res & dev engr, Proctor & Schwartz Inc, Philadelphia, Pa. Sponsors: G M Kidder, G R Thompson.

Student

Daryl Ann Hansen—Student, Bryn Mawr College, Bryn Mawr, Pa.

SOUTHERN REGION

Piedmont Section

Senior

Joseph F Carter—Chemist, Moretex Chemical Products Inc, Spartanburg, SC. Sponsors: O J Goldstein, I S Hurd.

Martin Chanin—Professor of textile chemistry, Clemson College, Clemson, SC. Sponsors: J Lindsay, R E Rettew.

William L Foster—Chemist, supv, Fletcher Div, Cranston Print Works Co, Fletcher, NC. Sponsors: E T McIlwain, J V Boone.

Grady C Griffin—Chemist, Fletcher Div, Cranston Print Works Co, Fletcher, NC. Sponsors: J B Foster Jr, J V Boone.

F Russell Trimber—Supt of dyeing, Collin & Aikman Corp, Albemarle, NC. Sponsors: C T Wagner Jr, G R Currier.

(concluded on page 86)

ACTIVITIES OF THE LOCAL SECTIONS

Western New England

A visitation to the Naugatuck Chemical Div, U S Rubber Co, highlighted the April 8th meeting of the Western New England Section. Despite inclement weather, approximately 80 members and guests made the tour in the afternoon through the Naugatuck, Conn, plant in groups of seven and eight.

The group reassembled in the evening at Rapp's Restaurant, Shelton, Conn, to hear Bernard C Smith, group leader, colloidal products development, Naugatuck Chemical Division, talk on latices, the various types and their application. Thomas J Horan, WNE Section vice chairman, arranged the visitation.

At the business session, a special election was held for the post of secretary, which had been vacated by Henry C Speel, whose business had taken him to Ohio. W H Espelin was elected by acclamation.

Chairman Albert H Rant announced the following Dining Committee: Joseph J Black, chairman, W R Simpson, Gregory Pelliccione, and Peter DuBiel.

•

Southeastern

APPROXIMATELY 65 members and guests attended the April 16th meeting of the Southeastern Section at Ida Cason Callaway Gardens at Pine Mountain, Georgia.

A morning round table discussion on vat dyeing, lead by Ben S Daniel, Lanett Bleachery & Dyeworks, was another highly successful affair in which over 50 members and guests present participated with enthusiasm.

The speaker at the technical session was Arthur Ogden, director, Standfast Dyers and Printers, Ltd, Lancaster, England, who presented a paper entitled "The Standfast Patent Continuous Molten Metal Vat Dyeing Process". A film accompanied the presentation.

H Gillespie Smith, chairman of the Section's Scholarship Committee, announced that the scholarship offered by the Section was subject to reassignment and recommended that Charles B Stewart, a first quarter senior studying for a BS degree at Georgia Tech, be approved.

Guest of the Section was A Henry Gaede, vice president, Southern Region, who addressed the membership and urged more participation by the Southern Sections in the National affairs of AATCC.

Following the technical session and social hour the members enjoyed a buffet style banquet at the Country Club in the Gardens.

•

Mid-West

THE Winter Meeting of the Mid-West Section, held February 6 at the Bismarck Hotel, Chicago, Ill, attracted 92 members and guests to the afternoon business and technical session and 107 to the dinner meeting.

Speaker at the afternoon session was J A Leddy, manager of synthetic fiber dyeing, Geigy Dyestuffs, whose subject was "The I-T Process for Applying Cationic Dyes to Acrylic Fibers". Carl S Winters was the speaker at the dinner meeting.

It was announced that future meetings of the Section will consist of an afternoon business and technical session and an evening dinner meeting which will be nontechnical with ladies invited. A social hour will be held prior to the dinner meeting.

A motion was made and seconded that the Section bid to be host for the 1965 AATCC Convention.

Chairman James L McGowan announced the following committee personnel for the year:

Auditing—E J Sindt, chairman, William Boyd, Arthur Teichner

Scholarship—Joseph Jones, chairman, Arthur Hultberg, Elliott Morrill, Frank Gurry

Nominating—John Eich, chairman, Francis Connely, J M Remsen, Elliott Morrill

Membership—Frank Stover, chairman

Program—Kenneth Giese, chairman, George Chabot

Publicity—William Paine, chairman, R W Dobler

Custodian—Joseph Jones

Social Director—Warren Broadbent

Outing—Walter Sites, chairman, Francis Connely, William Paine, R W Dobler, Victor Braun, William Boyd, Bernard Faye, Bernard Isenogle, Roy Teale

Technical—E M Eddington, chairman, A Gorski, Arthur Hultberg, James Miller, Edwin Grajeck, Lee Johnston.

AATCC Calendar

COUNCIL, COUNCIL COMMITTEES, RESEARCH COMMITTEES
May 26-27 (Hotel Sheraton-Atlantic, New York, NY); May 26—Council Committees and Research Committees; May 27 (AM)—ECR, TCR; May 27 (PM)—Council
Sept 8-9 (Atlanta, Ga); Sept 8—Council Committees and Research Committees; Sept 9 (AM)—ECR, TCR; Sept 9 (PM)—Council

NATIONAL CONVENTIONS
Oct 6-8, 1960 (Sheraton Hotel, Philadelphia, Pa); Sept 28-30, 1961 (Buffalo, NY); 1962 (Southern Region)

DELAWARE VALLEY SECTION
May 20 (Outing, North Hills CC, North Hills, Pa); Sept 16 (Reading, Pa); Nov 4, Dec 9 (Philadelphia, Pa)

HUDSON-MOHAWK SECTION
May 20 (Ladies Night); June 24 (Annual Outing)

METROPOLITAN SECTION
May 20 (Ladies Night—Swiss Chalet—"New Developments in the Cosmetic Industry"—Donald H Powers, Warner-Lambert Pharmaceutical Co, Morris Plains, NJ); June 17 (Outing—North Jersey Country Club, Wayne, NJ)

MID-WEST SECTION
June 18 (Outing, Cerami's Island View Resort on Browns Lake, Burlington, Wis)

NORTHERN NEW ENGLAND SECTION
Sept 9 (Outing—Wachusett Country Club, West Boylston, Mass); Oct 21 (Hotel 128, Dedham, Mass—"Customer Service"—Arthur Swenson, J P Stevens & Co, Inc, and P J Fynn, J C Penney Co); Dec 9 (Colonial Country Club, Lynnfield, Mass—"Present-day Economic Outlook in Textiles"—William I Kent, Kent Mfg Co); Jan 20 (Hotel 128, Dedham, Mass—Symposium on "Mechanical and Chemical Finishing of Textile Fabrics"—John J McDonald, Lowell Technological Inst, D D Gagliardi, Gagliardi Research Corp, and Werner von Bergen, J P Stevens & Co, Inc)

PACIFIC SOUTHWEST SECTION
July 16 (picnic); Sept 24-25 (Outing—Apple Valley, Calif); Nov 18 (Rodger Young Auditorium, Los Angeles, Calif); Dec 10 (dance)

PIEDMONT SECTION
June 3-4 (Outing—Ocean Forest Hotel, Myrtle Beach, SC); Sept 23-24 (Hotel Charlotte, Charlotte, NC); Jan 21 (Poinsett Hotel, Greenville, SC); April 2 (Washington Duke Hotel, Durham, NC); June 9-10, 1961 (Outing—Grove Park Inn, Asheville, NC); Sept 23, 1961 (Hotel Charlotte, Charlotte, NC)

RHODE ISLAND SECTION
June 24 (Outing—Metacomet Country Club); Sept 23 (Management Night); Oct 28 (Providence Engineering Society); Dec 2 (Annual Meeting—Johnson's Hummocks)

SOUTH CENTRAL SECTION
Sept 17, Dec 9 (Hotel Patten, Chattanooga, Tenn)

SOUTHEASTERN SECTION
June 10-12 (Outing—Radium Springs Lodge, Radium Springs, Ga); Sept 10, Dec 3 (Atlanta Athletic Club, Atlanta, Ga)

WESTERN NEW ENGLAND SECTION
June 10 (Outing, Wallingford Country Club—tentative); Sept 23 (Blake's Restaurant, Springfield, Mass); Oct 21 (Annual Meeting, Rapp's Restaurant, Shelton, Conn); Dec 2 (Rapp's Restaurant, Shelton, Conn)

HEAD TABLE—BANQUET—L to r: Richard E Rettew, Polymer Southern, secretary; E Philip Lavoie, Wica Chemicals, Inc, sectional committeeman; Robert Ward, Leaksville Woolen Mills, treasurer; Arthur Thompson, Ciba Co, Inc, AATCC treasurer & Piedmont Section custodian

HEAD TABLE—BANQUET—L to r: J C King, Metro-Atlantic, Inc, National Councilor; A Henry Gaede, Laurel Soap Mfg Co, AATCC vice president; Charles L Zimmerman, Dan River Mills, National Councilor; Fred Fortess, Celanese Fibers Co, chairman, Piedmont Section Research Committee

Piedmont

PIEDMONT SECTION attracted 319 members and guests to its annual Spring Meeting at the Hotel Robert E Lee, Winston Salem, NC, April 3. Arrangements for the meeting were handled by Gordon Eaves, Cloverdale Dye Works, Inc, High Point, NC.

The morning was taken up with the meetings of four subcommittees, followed by a general meeting of the Section's Research Committee, attended by 96 persons. At this meeting, Lee Wayland reported on the progress of the Subcommittee on Mechanism of Chlorine Retention, which is grooming a topic for an Intersectional Contest paper. James Greer reported for the Subcommittee on Wool-Synthetic Processing; Vernon Smith reported for the group on water and oil repellency; and Gertrude Lathrop reported for the group investigating odor development in resin-finished goods.

At the regular officer's luncheon, it was voted to increase the amount of the Charles H Stone Scholarships from $250 to $500.

Speakers at the afternoon technical session were W H Sollenberger and Irvin H Welch, American Viscose Corp, who spoke on "Reacted Cellulose"; and Charles H A Schmitt, Sandoz, Inc, whose topic was entitled "Lightfastness of Dyestuffs on Textiles". The technical meeting was attended by 174 members and guests.

HEAD TABLE—BANQUET—L to r: Gordan Eaves, Cloverdale Dye Works, sectional committeeman; "Bones" McKinney, Wake Forest College, guest speaker; Linton C Reynolds, Riegel Textile Corp, chairman; Vincent B Wright Jr, Koppers Co, vice chairman

"Sweating out" the buffet are, l to r: A Henry Gaede; Linton C Reynolds; and Clarence Hooper, House Fabrics Div, Burlington Industries

Ed Baxter, Dexter Chemical Co, arranged the musical program for the buffet-banquet

And at the other end of the line . . . . . A R Thompson (foreground); Merrill G Morris, National Aniline Div (background)

"Bones" McKinney, basketball coach at Wake Forest College, was the speaker at the buffet-banquet, which was attended by 229. Musical entertainment was provided.

Next on the schedule of Piedmont Section affairs will be the Summer Outing, scheduled for June 3-5 at the Ocean Forest Hotel, Myrtle Beach, SC.

Membership is the topic—L to r: Albert Willard, North Carolina Finishing Co; Ralph Elwell, Olin Mathieson Chemical Co, chairman, Piedmont Section Membership Committee; and Richard R Rettew

L to r: Gertrude Lathrop, Old Fort Finishing Co; Mrs J C King; Robert McKown, Hart Products Corp; Mr & Mrs M M McCann, Metro-Atlantic, Inc; H R Souther, Cone Mills Corp

PACIFIC SOUTHWEST SECTION OFFICERS FOR 1960—L to r: David D Sanders, National Dyeing & Finishing Corp, treasurer; Angus H Roberts, Nopco Chemical Co, vice chairman; Paul F Noonan, Dyemasters Inc, national councilor; Richard C Demuth, Dyemasters Inc, secretary; Walter E Kramer, Jenkins Wright Co, Inc, chairman

Washington

WASHINGTON SECTION held its Spring dinner meeting at the Occidental Restaurant, Washington, DC, on April 22 with 65 members and guests in attendance.

Robert G Levitch, director of product development, James Lees and Sons Co, was the featured speaker. His unusual subject was entitled "Covered Bridges and Carpet Fibers". Harry L Morgan, director of dyeing and wet processing, James Lees and Sons, assisted in many of the displays that illustrated the talk.

Robert G Levitch (right), guest speaker at the Washington Section's April 22nd meeting, was assisted by Harry L Morgan. Both men are with James Lees and Sons Co.

Mr Levitch pointed out that the woods used in the construction of covered bridges were selected on the basis of their utility, cost, and the end uses of the bridges. This part of the talk was well illustrated with pictures of covered bridges found in New England.

Mr Levitch indicated that carpet fibers were selected on a similar basis. He discussed the individual performances of five carpet fibers: wool, rayon, modacrylic, nylon, and 501 nylon, according to carpet properties desired by consumers. The first were the visual properties of color, luster, texture and coverage. The second were the subjective properties of resilience, warmth, and luxury feel. The third were the service characteristics of resistance to pilling, staining, soiling, shedding, burning, wearing, and soil removal. The final were economic considerations of price and availability. No single fiber was outstanding in every category, but some fibers had more plus values than others.

Chairman Nelson F Getchell presided at a short business meeting prior to the dinner. A Eleanor Davis, membership chairman, reported excellent progress in the current membership drive. The meeting and dinner was arranged by Sectional Committeeman Edward C Oliva.

Messrs Morgan and Levitch flank Nelson F Getchell, Washington Section chairman

Membership Applications——

(concluded from page 83)

Southeastern Section

Senior

Robert M Barr—Sales rep, Continental Oil Co, Petrochemical Dept, Atlanta, Ga. Sponsors: F G Calkin, K E Miller.

Donald H Early—District mgr, Moreland Chemical Co Inc, Chamblee, Ga. Sponsors: P C Thomas, T H Babb.

Aldo Parian—Pres, gen mgr, Georgia Hand Prints Inc, Carrollton, Ga. Sponsors: W S Pearson, J E DeKalb.

WESTERN REGION

Mid-West Section

Senior

Richard J Hauser—Dyer, Supt, Milwaukee Dye & Bleaching Co, Milwaukee, Wis. Sponsors: F E Hempel, F E Schroeder.

Pacific Southwest Section

Associate

Nels R Hansen—Sales rep, Chem & Dyestuffs Div, Koppers Co Inc, Los Angeles, Calif.

STUDENT CHAPTER

Georgia Institute of Technology

Student

William W Bailey—Student, Georgia, Institute of Technology, Atlanta, Ga. Sponsor: W Postman.

NON-AFFILIATED

Senior

Kurt A Schoenberg—Mgr, Textile Lab, Statens Husholdningsrad, Copenhagen, Denmark. Sponsors: G M Kidder, G R Thompson.

Employment Register

This column is open for two insertions per year, per member, without charge. Blanks may be obtained from, and filed with, the secretary of the Association, Post Office Box 28, Lowell, Mass. It is understood that these will be open to inspection by prospective employers who can obtain further information from the secretary.

60-6

Education: Univ of Miami, N Y School of Textiles.

Experience: Converter, quality control mgr, fabric development mgr.

Position desired: Administrative, converter, fabric development or control mgr.

Location: New York, NY, desired; anywhere acceptable.

Age: 31; married, two dependents; references.

5-16, 5-30

Abstracts

Use of Color in Cosmetics

Anstead, D F, *Dyer 123*, 30, Jan 1, 1960

The types of colors which are accepted as suitable for use in cosmetics can be divided into two classes: soluble and insoluble. Due advantage is taken of this vital difference in the production and properties of the finished article.

Soluble coloring matters can be subdivided into two classes: water-soluble and oil-soluble. In the majority of cases the soluble colors are synthetic organic dyes.

Insoluble coloring matters may be divided into organic (lakes of soluble dyes, and pigments) and inorganic; the latter may be further subdivided into two groups: 1) earths, oxides, ultramarines, carbon blacks, etc; 2) gold, silver, aluminum and bronze powders, pearl essences, etc.

Soap and bath crystals. These are always alkaline and require dyes which are resistant to alkali. Where a perfume is being employed, the dye must also be tested for fastness against perfume.

Face Powder. This may be described as a weak dispersion of an insoluble color on a perfumed base of inorganic white pigment, often containing fats, oils and waxes and designed to adhere to and tint the skin.

Foundation lotions, cake make-up and similar preparations. All these face-coloring preparations fall into the same category as face powder from the viewpoint of the colored pigments.

Hair colorants. These may be divided into the permanent type and the rinse type designed to give temporary coloring only. For permanent hair dyeing the "para" type of dyestuff is used mostly; some lead salts developed with sulfide or pyrogallol, and the natural vegetable dye, henna, are also used. The rinse type uses mostly acid dyes and certain selected basic dyes. The author comments that "human hair is probably the most difficult material ever placed before the dyer," due to the effect of previous treatments (eg, bleaches, permanent waves, shampoos, etc).

Lipstick colors. These are highly concentrated dispersions of pigments in fats, oils and waxes. The oil absorption of the color is an important factor as it controls the rheological behavior of the finished mass during the final heating and molding. High oil absorptions often simulate thixotropic behavior in the mass.

The Development of Washable Non-Iron Effects in Pure Wool Fabrics

Farnworth, A J, Lipson, M and McPhee, J R, *Textile Research J 30*, 11-22, Jan, 1960

The production from synthetic fibers of garments which can be washed and worn without ironing has stimulated research on developing similar effects in fabrics made from natural fibers.

Successful results have already been obtained with cotton by means of treatment with synthetic resins. The problem is more complex with wool than with cotton, due to the added effect of felting, which causes shrinkage and surface distortion of a fabric. Satisfactory methods are now available for overcoming felting shrinkage in wool, among which are resin treatments. Woven fabrics made from shrinkproof wool, however, still must be ironed after washing, even when a resin treatment has been used.

In order to confer washable non-iron properties on wool, the major requirements are:

1) A shrinkproofing treatment: low or zero felting shrinkage is necessary.

2) Minimum relaxation shrinkage: finishing procedures must be carefully controlled to minimize subsequent relaxation.

3) Stabilization to retain surface appearance during laundering: it is essential to eliminate the surface wrinkling and puckering which occurs when wool fabrics are washed.

4) Retention of creases or pleats in garments such as trousers and skirts: this is closely related to requirement #3 and can now be obtained by the Si-Ro-Set process.

5) Improvements in wrinkle resistance and recovery at high humidities.

Retention of appearance after laundering is perhaps the main obstacle to be overcome in obtaining washable non-iron effects in wool. Some form of setting treatment is therefore necessary.

The authors describe earlier attempts to obtain a permanent set on wool, in particular the Si-Ro-Set process, which involves spraying the fabric with a dilute solution of a reducing agent, followed immediately by steaming.

The use of a reducing agent for setting wool has been extended by applying the Si-Ro-Set process to fabrics which have been shrinkproofed. For the reducing agent, both sodium bisulfite and ammonium thioglycollate were tried and gave comparable results.

When preceded by shrinkproofing, this method of setting gives excellent washable non-iron effects on pure wool fabrics.

A wool shirting, shrinkproofed by chlorination and set by the above process, was made into shirts which were subjected to practical wearing trials. The results were satisfactory; the garments could be classed, the authors say, as "washable non-iron with high performance rating."

Full details of the experimental work are given, and the results of various tests made on the treated fabrics (wrinkle recovery, relaxation and felting shrinkage, bursting strength, etc) are recorded.

In applying this treatment to wool, the authors point out, the effect on dyes must be considered. In general, it might be expected that the best dyes would be those found resistant to sulfur stoving.

Twenty-seven references to the literature are cited.

•

Self-smoothing Cellulosic Fabrics

Marsh, J T, *J Soc Dyers Col 76*, 23-36, Jan, 1960

The original invention of crease-resisting textiles took place just before the formulation of the chemical constitution and molecular structure of cellulose, but subsequent developments have taken place side by side.

The conception of chain-molecules in varying degrees of lateral order (crystallite and amorphous) is now generally accepted. Native cellulose contains about 30% of amorphous material, and regenerated cellulose about 60%, or twice as much. As the molecular chains in these noncrystalline regions are neither straight nor parallel, it is statistically probable that they will meet or cross one another occasionally. There must be places where the chains come sufficiently close together to form some sort of entanglement by hydrogen bonds at "junction points". These junction points may be increased in number and variety to form a new network which is sufficiently entangled to impart properties of technical and commercial value.

Of the large number of new effects which may be obtained by suitable

entanglements of the molecular chains of cellulose, the most outstanding are associated with crease recovery, both wet and dry. These and other properties may be stabilized and made durable through the use of certain chemical compounds such as thermosetting resins (urea- and melamine-formaldehyde), reactant resins (bifunctional derivatives of imidazolidones and triazones) and linear reactants (formaldehyde, butanedioldiurethane, epoxy compounds and glycols).

The author discusses the effect of these various compounds, with special attention to those that give crease recovery without chlorine retention. Fifteen different effects obtained by the use of resin treatments are listed.

Self-smoothing fabrics are the latest development in finishing technique, and the term is intended to include wet and dry crease recovery, "wash-and-wear", minimum-iron, and many other features of considerable textile value.

There are certain differences between treated cottons and treated rayons, however, to which particular attention is drawn. First, the usual quantity of added resin in rayon is twice that in cotton, and this corresponds with the proportions of amorphous material in the two fibers; hence the amount of added resin is the same when calculated on the amorphous cellulose. Second, the extension at break of treated cotton and rayon is lower than with the original material, but the tensile strength of rayon is improved by the process, while that of cotton is reduced. The physical properties of the fibers are restored when the resin is removed, indicating that the reduction in extensibility is due to reversible physical embrittlement and not to irreversible chemical degradation.

The author also discusses, among other things, the effect of mercerization before or after the resin treatment, and the advantage of a "steam cure" (better resistance to abrasion); and points to the need for further work.

Fifty-nine references to the literature are cited.

•

Cake Dyeing with Reactive Dyes

Flanagan, T, *Man-made Textiles* 37, 67-9, Mar, 1960

The dyeing of viscose rayon cakes presents its own particular problems, which are mainly associated with the high density of the cake in its swollen state. This results in low permeability of the yarn, and consequently it is necessary to use dyes which are capable of redistribution through the package, and which are controllable with respect to their dyeing speeds.

The application of reactive dyes presents new problems to the cake dyer because of the unique dyeing properties of this class of dyes.

The Procion dyes (ICI) contain two labile halogen atoms which, under alkaline conditions, readily react with the hydroxyl groups of the cellulose molecule to form an insoluble dye/fiber complex. They also react to a lesser extent wth hydroxyl ions in the water of the dyebath, this reaction being accelerated by increasing the temperature. To minimize this undesirable feature, dyeing is carried out cold.

Procion dyes in a neutral bath behave similarly to direct dyes, except that they show only a limited amount of exhaustion with salt addition. When sodium carbonate is added to the dyebath, the dye/fiber complex is formed almost immediately; more dye moves from the bath to the yarn and becomes fixed, and since this movement is very rapid, the dyeing is irregular and the cakes show variation in shade from inside to outside and from cake to cake.

On adding the sodium carbonate to the dyebath the pH rises immediately to 10.3, and it is the sudden fixation of the dye resulting from this quick rise in pH which is the cause of the dyeing difficulty.

This trouble can be prevented by the use of a two-bath dyeing method in which the dye is first applied in a neutral salt bath until the best possible exhaustion is obtained, and then the yarn is transferred to a second bath and treated with sodium carbonate. While this procedure can yield level results, according to the author, it is uneconomical because of the poor color yield.

The author describes experiments made with Procion Brilliant Blue RS, a typical member of the range, in which sodium carbonate in the usual dyeing procedure was replaced by sodium bicarbonate. The cake was dyed at room temperature with addition of sodium sulfate, and then the sodium bicarbonate was added. The temperature of the bath was eventually raised to 50°C. On addition of the bicarbonate the pH of the bath rose first to 8.3, and at the end of the dyeing it was only 9.2. At this lower pH the dye solution is much more stable. The author states that the adoption of this technique not only brings the dyeing rate under control but the higher dyeing temperature results in a much better penetration of the cakes. He says that, by controlling the rate of adsorption of the dye and promoting the rate of diffusion, the difficulties of rayon cake dyeing have been largely overcome.

•

ICI Titanium in Manufacture of Bleaching Machinery

F Smith & Co, *Dyer* 123, 445, Mar 11, 1960

The use of processing chemicals which are highly corrosive to metals, particularly at elevated temperatures, has presented a most difficult problem to manufacturers of plant and machinery for the bleaching trade. The need for a metal which would effectively withstand the severe corrosive effects of sodium chlorite and its decomposition products at elevated temperatures, and would also permit a high degree of flexibility of process with varying chemical strengths and temperatures, proved to be very great.

The answer was found, according to the authors, by the use of titanium, which possesses greatly superior properties under these severe conditions of chemical attack over prolonged periods.

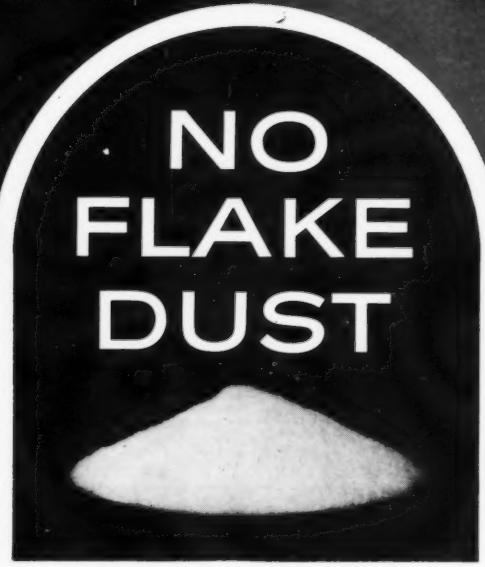
Titanium is now available in all the usual wrought forms for the many applications for which its unique combination of properties makes it an ideal material. It has a very high strength/weight ratio and a tensile strength of 35-40 tons per sq inch in the annealed condition. It has about 56 percent of the density of steel.

Titanium resists attack by a wide range of aggressive media and in many environments is superior to stainless steel. The resistance to chemical attack derives from the chemically stable and adherent oxide film which forms rapidly in air.

Titanium resists attack by bleaching liquors containing free chlorine and hypochlorites. Wet chlorine and solutions of chlorine do not affect it, although very dry chlorine will attack it violently. Experience has proved that, under conditions over a period where mild steel has completely dinintegrated, and where stainless steel has been severely corroded, ICI titanium has been completely unaffected.

The technique of fabrication in titanium has been carefully studied. At the moment it is being used for fabricated rollers and fittings, vessels and reaction chambers where the atmosphere is highly corrosive.

Although the price of titanium is high (at least ten times that of stainless steel), this may well be offset, the makers say, by its increased durability, obviating the cost of replacement of other metals and the loss of production time involved.



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WRITE FOR BULLETIN OR CONSULT CHEMICAL MATERIALS CATALOG PAGES 173-175

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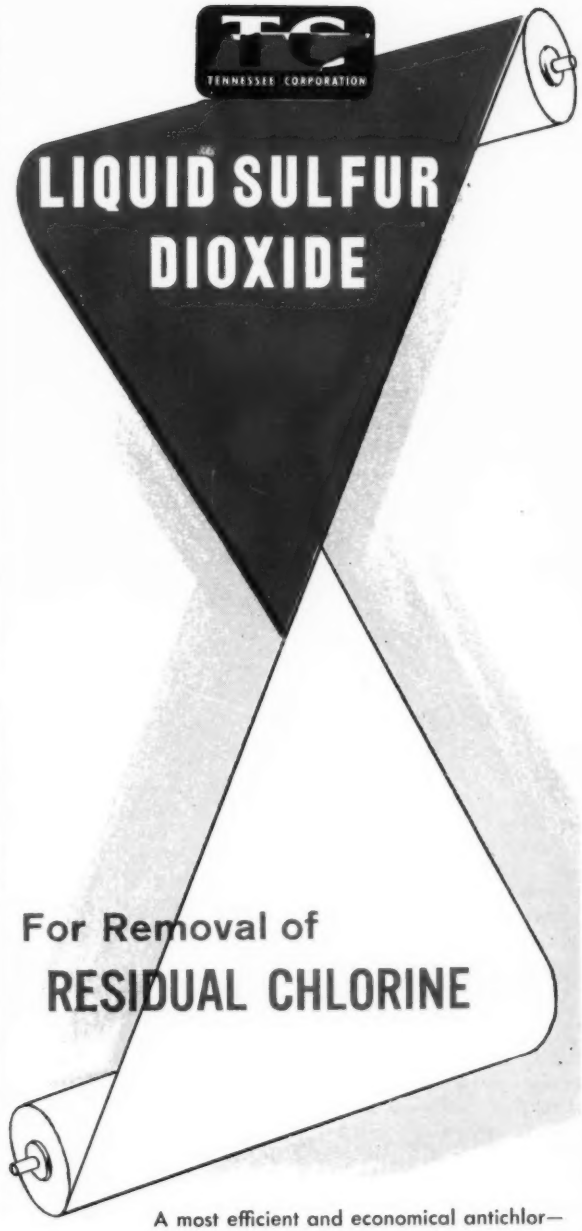

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General Calendar

AMERICAN ASSOCIATION FOR TEXTILE TECHNOLOGY
June 1 (Della Robbia Room, Hotel Vanderbilt, New York, NY)

AMERICAN COTTON MANUFACTURERS INSTITUTE
Mar 23-25 (12th Annual Meeting, Fontainebleau Hotel, Miami Beach, Fla)

AMERICAN SOCIETY FOR TESTING MATERIALS
June 26-July 1 (Annual Meeting, Chalfonte-Haddon Hall, Atlantic City, NJ)

AMERICAN TEXTILE MACHINERY ASSOCIATION
May 23-27, 1960 (American Textile Machinery Exhibition, Auditorium, Atlantic City, NJ)

CHEMICAL EXPOSITION USA
Sept 13-15 (Statler Hilton Hotel, New York, NY)

FEDERATION OF BRITISH INDUSTRIES
June 10-26 (British Exhibition of Industry, Technology, Science and Culture—Coliseum, New York, NY)

INTERNATIONAL TEXTILE MACHINERY EXPOSITION
1962 (3rd Exposition, Hanover, Germany)

NATIONAL ACADEMY OF SCIENCES
May 17-18 (Conference on Blend Fabrics, Quartermaster Research & Engineering Command, Natick, Mass)

NATIONAL COTTON COUNCIL
Sept 28-30 (9th Chemical Finishing Conference, Statler Hotel, Washington, DC)

SOUTHERN TEXTILE EXPOSITION
Oct 3-7 (Greenville, SC)

SYNTHETIC ORGANIC CHEMICAL MANUFACTURERS ASSOCIATION
June 14, Sept 13, Oct 11, Dec 8 (Hotel Roosevelt, New York, NY)

TEXTILE OPERATING EXECUTIVES OF GEORGIA
Oct 22 (Harrison Hightower Bldg, Georgia Inst of Technology, Atlanta, Ga)

WOOL TEXTILE RESEARCH CONFERENCE
May 18-28 (Harrogate, England)

WORLD CONGRESS FOR MAN-MADE FIBERS
May 15-18, 1962 (2nd World Congress, London, England)

• PATENT DIGEST •

SHRINKPROOFING WOOL—Treatment with Cr-Complex of Carboxylic Acids (A,2,04)

U S Pat 2,890,926 (Secy of Agric—Pardo Jr, Fong—June 16, 1959)

The method for shrinkproofing wool covered in this patent calls for a pretreatment with an alkaline solution of sodium borate, sodium carbonate, disodium phosphate, etc, followed by a treatment with a chromium complex of aliphatic, aromatic or cycloaliphatic acids of chain length of 4 C or more. Chromium complexes of this type are obtained by reacting the carboxylic acid with chromyl chloride, usually in the presence of a lower alcohol.

Reference is made to Du Pont—Iler's U S Pat 2,273,040 (1942), which covers the use of the above-mentioned chromium complexes for water-repellent purposes and to U S Pat 2,662,835 (1953) (Minnesota Mining & Mfg Co—Reid) calling for the use of similar fluorine-containing complexes. Fluorine-substituted complex compounds are also called for in most of the examples in the present specification.

The reason for the alkaline treatment which precedes the impregnation with the above-mentioned chromium complexes of organic acids is not quite understood. Possibly adsorbed hydroxyl ions act as sites which attract the cation of the chromium complex (see col 1, line 58 to col 2, line 6). Reportedly the use of the alkaline pretreatment has the effect of improving the shrinkage resistance while permitting the use of very dilute (one percent) chromium complex solutions, whereby the hand of the wool remains substantially unimpaired.

PAUL WENGRAF

Example: Woolen cloth was padded in a borax solution, then immersed in a one percent solution of a chromium complex product prepared by reacting chromyl chloride in the presence of an alcohol with perfluoromonocarboxylic acid ("FC—804" of Minnesota Mining and Mfg Co, cf U S Pat 2,662,835). Table 1, col 4, lines 1-10 demonstrates the superiority of the shrink-resisting effect obtained by the current method and compares the results observed with those when the alkaline pretreatment is omitted.

Among the references cited by the Patent Office:

U S Pat 2,273,040 (Du Pont/1942) and U S Pat 2,662,835 (Minn Mining & Mfg Co/1946): see above.

U S Pat 2,395,791 (Cluett Peabody/1946): wool is dimensionally stabilized by a pretreatment with alcoholic alkali followed by a treatment with a synthetic resin-forming composition [cf *Am Dyestuff Reptr 35*, 336 (1946)].

•

CONTINUOUS VAT DYEING———Bath Containing Dye Pigment-Reducing Agent and Aldehyde (C,4,02)

U S Pat 2,892,669 (Neth Org v T Naturwetensch—Lamoen, Borsten—June 30, 1959)

The usual continuous vat-dyeing process comprises impregnation in a dispersion of nonreduced vat dyestuff, followed by reduction in an alkaline hydrosulfite solution, steaming to convert the dye into the leuco-form, and reoxidizng. It has been observed that substantial amounts of the cloth have to pass throught the bath before stabilized conditions are attained. Consequently, a great amount of non-uniformly dyed cloth is produced before the necessary equilibrium has been established.

Reportedly, this problem has been solved by running the cloth through a bath containing the main components, ie, vat pigment hydrosulfite and one g mol alkali, plus a certain quantity of an aldehyde (preferably formaldehyde). A solution of this type, however, can be stabilized only if the bath containing the above ingredients has an absolute potential which is less negative at room temperature but more negative at 100°C than the value of the leuco potential of the dye in the concentration used in the dyebath. Thus the aldehyde added in a controlled amount acts as a stabilizer at room temperature, apparently by reaction with hydrosulfite. Leuco potential and bath potential are measured by the method outlined by Marshall and Peters in *J Soc Dyers Col 69*, 583 (1953). The potential values are measured in m volts.

Example: The dyebath contained 120 g CI Vat Black 25, 200 g glycerol, 320 g NaOH, 320 g sodium hydrosulfite (80%), 276 g formaldehyde (40%) adjusted with softened water to four liters. Bleached cotton was padded to an increase of 3% (in dry weight of the cloth), steamed for 72 seconds, oxidized with perborate, and soaped. A uniformly gray dyed fabric was obtained in which the shade was deeper than that of a cloth dyed in the traditional vats with equal dyestuff amounts.

Among the references cited:

U S Pat 2,447,993 (Du Pont/1948) refers to the well-known continuous vat-dyeing process which calls for impregnation with a suspension of the unreduced vat dye, and immediately passing into a closed, steam-filled chamber which contains the

Catalin

liquid resin 8171

CUTS PRODUCTION TIME... LOWERS FINISHING COSTS

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The multiple manpower operations required to handle, measure and mix paste-form crease-resistant finishes are money-consuming and time-wasteful. Furthermore, no batches thus made can compare in uniformity and accuracy with a *used-as-received* liquid formulation.

By turning from pastes to Catalin Resin 8171 . . . (a versatile, water-soluble monomeric LIQUID urea formaldehyde formulation) . . . many large textile finishing plants are now enjoying important production economies, better and more uniform finishes . . . and the sense of satisfaction that comes with saving both time and money!

Catalin Resin 8171 is available only in tank car and tank truck quantities. It readily meets TBL crease-resistance specifications as applied to spun rayon fabrics and blends.

Catalin field representatives, experienced in the processing problems of the textile industry, welcome the opportunity to submit samples and discuss the cost-cutting and quality advantages of Resin 8171. Inquiries invited.

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boiling alkaline reducing solution.

U S Pat 2,487,197 (Du Pont/1949) describes a continuous vat-dyeing process wherein the cloth is first padded in a suspension of the unreduced pigment, with alkali and hydrosulfite at a temperature below that at which any reduction can occur, and finally steaming in an oxygen-free atmosphere. [Cf *Am Dyestuff Reptr 39*, 191 (1950)].

The South Central Section, AATCC, in *Am Dyestuff Reptr 43*, 524-540 (1954) reports on the use of formaldehyde sulfoxylate instead of hydrosulfite in vat dyeing and discusses advantages and disadvantages of this method.

•

INCREASING AFFINITY OF CELLULOSE TO BASIC DYES ———Treatment with Chlorine-Substituted Triazine (D,2,03)

U S Pat 2,892,674 (Imp Chem Ind—Sause, Stephen —June 30, 1959)

Cellulose treated in aqueous alkaline media with a nondyestuff compound containing at least one 1-3-5 triazine ring, which is substituted with at least one halogen atom and at least one amino group, reportedly acquires affinity for basic dyes which contain isothiouronium salt groups, attached through methylene groups to an aromatic nucleus. Basic dyes of this constitution are described in Brit Pat 613,980 (Imp Chem Ind/1948). They are prepared from halogeno methyl derivatives of certain anthraquinone compounds which are reacted with thiourea or derivatives thereof to form water-soluble isothiouronium compounds.

The triazine derivatives, applied to impart affinity to cellulose, are obtained from a cyanuric halide and a primary or secondary amine, which contains a negatively charged solubilizing group, eg, aminobenzene sulfonic acid or N-methyl taurine, under such conditions that at least one halogen atom remains in the final condensate. Cellulose is treated in an alkaline solution of the condensate by padding and drying to obtain fixation of basic dyes, particularly those of the above-mentioned cationic solubilized type.

Example: Spun viscose was padded in a three percent solution of a condensate, prepared from cyanuric chloride and p-amino benzene sulfonic acid, plus 3% NaOH. The goods were heat dried, rinsed, dried again, and printed with a dyestuff of the above-mentioned group. Stronger and more level prints reportedly resulted.

References cited by the Patent Office:

U S Pat 2,300,589 (Gen Aniline & Film/1942): the affinity of cellulose to acid wool dyes in increased by incorporating within the fibers high molecular-weight, alkali-soluble sulfonamides, which also contain basic nitrogen residues, eg, the reaction product of polyethyleneimine with benzene sulfoethylene imide.

Brit Pat 342,167 (Ciba/1931): cellulose pretreated with alcoholic potash, then reacted with a cyanuric acid halide, acquires strong affinity to basic dyes.

Warren et al in *Textile Research J 22*, 584 (1952, discusses the Haller-Heckendorn reaction of cyanuric chloride with alkali-impregnated cotton, which imparts to the material different dyeing characteristics, such as affinity for certain basic and disperse dyes.

•

FELTPROOFING WOOL BY CHLORINATING——— Controlled by Adding Triazine Derivatives (A,2,04)

U S Pat 2,897,041 (Geigy A G—Kleemann et al—July 28, 1959)

Irregular results in the feltproofing of wool, when carried out with acid solutions of chlorine or hypochlorous acid, occur frequently by reason of the great reactivity of chlorine with the fiber.

According to the present patent, the great rapidity of this reaction can be reduced by performing this process in the presence of hydroxyalkylated 2-4-6-triamino-1-3-5-triazine, particularly with monohydroxyalkylated derivatives, but also with dihydroxy alkylated derivatives, such as 2-OH-ethylamino-4-6-diamino-1-3-5-triazine or the like. Compounds of this class even in small amounts, eg, 0.1-0.6% owf, were found to retard the reaction of chlorine with wool, so that uniformly chlorinated material could be produced.

Example: Cleaned wool hanks were pretreated in a 150-ml water bath containing 0.3 p sulfuric acid (98%) and 0.013 p of the abovementioned triazine derivative. At 15-20°C, a diluted hypochlorite solution was poured in within 15 minutes. After the goods were treated for 30 minutes, they were dechlorinated with bisulfite. A feltproof yarn which dyed in level shades reportedly resulted.

Among the references cited by the Patent Office:

U S Pat 2,329,622 (Am Cyanamid/1943): felting and shrinking tendencies of wool are reduced by impregnation with an alkylated melamine-formaldehyde monomer, which is polymerized by curing.

U S Pat 2,516,055 (Botany Worsted Mills/1950) describes an antifelting process, wherein wool is first partially halogenated, then subjected to a treatment with a resin condensate, eg, a melamine-formaldehyde resin.

U S Pat 2,661,313 (Monsanto Chem/1953): shrinkage of wool may be controlled by a treatment with a colloidal aqueous methylated methylol-melamine resin plus an organic acid, followed by curing. [Cf *Am Dyestuff Reptr 43*, 446 (1954)].

Brit Pat 704,896 (Ciba Ltd/1954) describes a controlled chlorination of wool, conducted in the presence of a water-soluble alkyl ether of dimethylolurea; Brit Pat 675,137 (Ciba Ltd/1952) refers to an analogous process wherein a methylated methylolmelamine must be applied.

•

FLAMEPROOFING TEXTILES with Triisocyanates of Phosphorus (G,2,03)

U S Pat 2,898,180 (Olin Mathieson Chem Corp—Holbrok—Aug 4, 1959)

According to the claims in this patent, textiles can be durably flameproofed by applying solutions of phosphorus triisocyanate, ie, $P(NCO)_3$, or phosphoryl triisocyanate, ie, $OP(NCO)_3$.

These compounds are water-insoluble and must be dissolved in solvents having a boiling point below 150°C, such as benzene, lower alkylbenzene or lower dialkylethers (diethylether) and the like.

Example: A 10% solution of phosphoryl triisocyanate in benzene was padded on Indian Head cotton with a wet pickup of 84.2%, dried at 220°F (dry pick-up 13.23%), and cured at 265°F. The flammability was tested by AATCC Test Method 33-1957 (ASA L14.69-1952). It was observed that the butane flame does not ignite the sample after being in contact with the flame for 120 seconds. Even after being washed in 10% soda ash, five seconds reportedly was required to ignite the sample.

Among the references cited by the Patent Office:

U S Pats 2,648,597, 2,661,263, and 2,661,264 (Monsanto/1953) refer to a fire-retardant process calling for application of a water-soluble, ammonia-insoluble reaction product of phosphorus oxychloride and anhydrous ammonia, combined also with Sb- and Ti-chlorides. [Cf *Am Dyestuff Reptr 43*, 344 (1954)].

U S Pat 2,691,567 (Du Pont/1954): derivatives of an OH-containing phosphate, eg, di-n-butyl polyvinylphosphate, are reacted with a dimeric isocyanate, eg, tolylene diisocyanate, to give a solvent-soluble syrup, which is applyed to cellulose as a flameproofing agent. [Cf *Am Dyestuff Reptr 44*, 233 (1955)].

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New . . . an ALTHOUSE EXCLUSIVE homogeneous neutral dyeing color for nylon . . . superior light fastness . . . 80 hour Fadometer test . . . excellent wash fastness . . . Laundrometer test at 140°F . . . gives bright, clear shades consistently . . . excellent pile on properties. Excellent for the new green shades on taffeta dress goods, tricot, upholstery, carpeting.

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News of the Trade

Obermaier to Launch U S Manufacture of Dyeing Machines

Obermaier & Cie of West Germany, designers and manufacturers of skein-, package-, and raw-stock-dyeing machinery, plans to license the production of its line in the United States. Kragmar, Inc, Obermaier's US representative and sales agent, has been appointed to select or procure facilities for fabricating the Obermaier line under this license.

Several eastern plants are now being considered as licensees. George Haag of Kragmar, Inc, has been negotiating with the firms in question and a decision should be forthcoming within the next few months.

It is expected that American manufacture of Obermaier machinery and equipment will start about midsummer or early fall, with full production anticipated by the year's end.

•

11th Cotton Research Clinic

Current research developments in cotton fiber evaluation and processing will be the theme of the National Cotton Council's eleventh annual Cotton Research Clinic to be held at the Grove Park Inn, Asheville, NC, on May 31, June 1 and 2.

General Chairman of the meeting will be Earl Heard, vice president, West Point Mfg Co, West Point, Ga. Session chairmen are: B F Tipton, vice president, Woodside Mills, Greenville, SC; Richard Tuttle, director of research, Fieldcrest Mills, Spray, NC; Ashley Roberts, assistant superintendent, China Grove Cotton Mills Co, China Grove, NC; and Werner Pels, of the Council's utilization research division staff.

Several reports will be made on the effects of fiber length on spinability, and new methods of length measurement. Technical data on new machinery developments in roving, spinning and drawing also will be presented.

More than 250 textile scientists representing mills, research laboratories, educational institutions and machinery manufacturers are expected to attend.

Further information on the meeting may be obtained from the National Cotton Council, Technical Section, 1200 18th Street, NW, Washington 6, DC.

•

C-H-M Licensed to Apply Lanolized to Sleepwear

The first license to permit application of the Lanolized "wash-and-wear" finish on cottons in the field of sleepwear has been issued to Cohn-Hall-Marx Co.

Sanford S Agate, president of Cohn-Hall-Marx Co, declared that the company would inaugurate its Lanolized "wash-and-wear" program on two widely used constructions: a 100% all-combed-cotton 88×80 batiste to be known as Lanol-Aire, and a 68×72 all-cotton batiste to be known as Lanol-Eze.

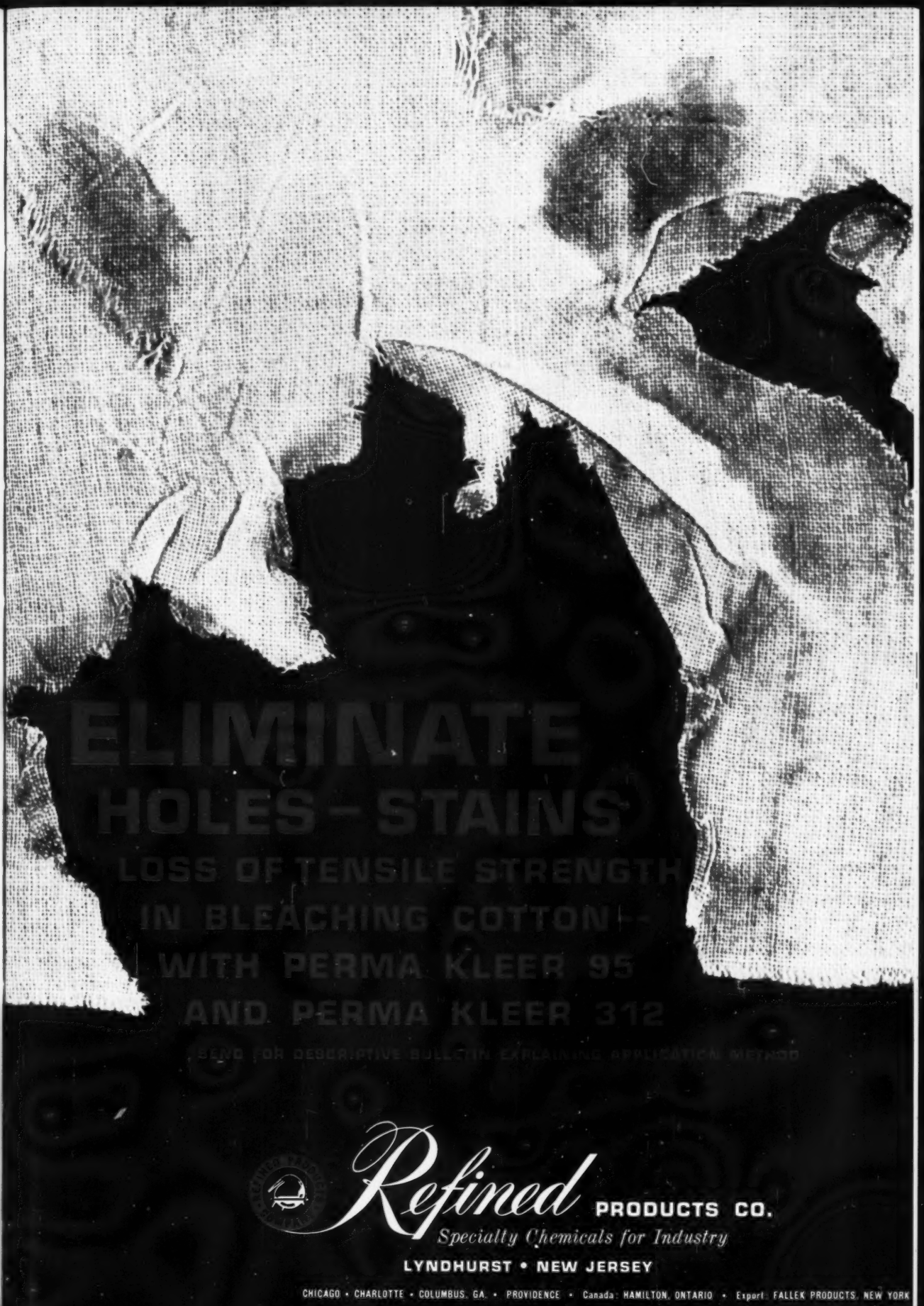
Mr Agate further stated that while Lanolized is normally a special premium finish applied at considerably higher cost, Cohn-Hall-Marx Co is releasing its lines on a competitive basis with ordinary "wash-and-wear". Sample fabrics, he declared, will be offered to the trade beginning with the introduction of the company's new Spring-of-1961 lines.

The finish, produced by Scholler Brothers, Inc, of Philadelphia, is used in the stretch fabrics of girdles and corsets; in synthetic and blended fabrics for lingerie; in men's and women's work and utility gloves as well as children's gloves and mittens, and now into the sleepwear trades.

Lanolized, Inc, points out that, because the finish is subject to rigid quality controls and standards, manufacturer use of Lanolized fabrics requires a license, issued to select users at no cost. Interested manufacturers of sleepwear who contemplate the use of Lanolized cottons should contact Lanolized, Inc, 350 Fifth Ave, New York, or Cohn-Hall-Marx Co, Dept 22, 1412 Broadway, New York.

The benefits afforded by the U S Patent Office in the department of products for the textile industry was the theme of this Arnold, Hoffman display, one of the featured attractions at the Chemicals and Synthetics Exhibit, sponsored in Washington, DC recently by the U S Department of Commerce.

WALLERSTEIN LAUNCHES NEW INDUSTRIAL CHEMICAL——The Wallerstein Company, a division of Baxter Laboratories, recently announced a new process, the result of a research breakthrough, which for the first time makes dihydroxyacetone (DHA) available as an industrial chemical at $8.70 per pound. In the photo above, standing, left to right, are Biochemist Theodore Cayle and Microbiologist Samuel R Green, given chief credit for the development. Seated, extreme left, Edward J Beckhorn, research director, and, extreme right, Robert C Ottke, director of commercial development.


ELIMINATE
HOLES - STAINS
LOSS OF TENSILE STRENGTH
IN BLEACHING COTTON -
WITH PERMA KLEER 95
AND PERMA KLEER 312
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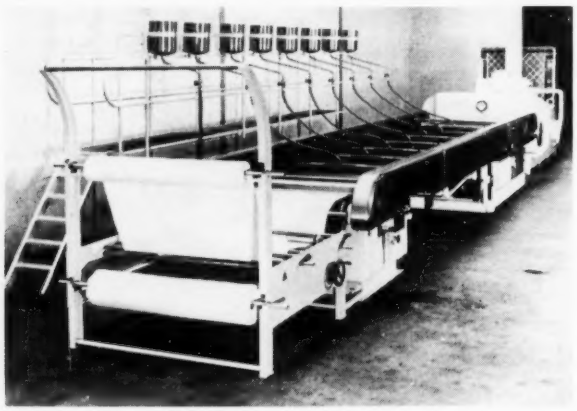

Stork Screenprinter

New Stork Screenprinter Averaging 853 YPM

Precision in printing all types of intricate designs in as many as 19 different colors on textile fabrics at production speeds averaging 853 yards per hour is the major claim of the new Stork screenprinting machine with Micromatic automatic repeat control. Made in Holland by Gebr Stork & Co, these printing installations simplify the fabric screenprinting operation to the most practical terms and afford considerable savings in work time, labor, materials, color, glue consumption and floor area, it is claimed.

Stork is represented for sale of textile machinery in the United States by the Cosa Corporation. The manufacturer is currently exporting various textile machines to the United States reportedly at competitive prices, and several such machines are said to be operating at peak efficiency in American textile printing plants.

The Stork installation consists of a cloth-feeding device, the automatic screenprinting machine, a platform with color containers and a drier, all of which are fully automated and controlled mechanically by means of one cam disc.

The printing process begins when a set of nip rollers in the fabric feeder, positively drawn by a separately controlled motor, takes either the plaited or batched cloth and delivers a preset quantity under constant tension and without creases to a small scray. Operating in much the same way as a weighing scale, the scray feeds the cloth to the screenprinter where it is fixed automatically by an even coating of glue to the printing blanket.

The blanket drives the cloth under stationary engraved screens, through which the colors, fed by gravity from overhead printing paste containers, are squeezed onto the fabric by a single warpway squeegie stroke. Although a separate screen is necessary for each color, the screens are considerably cheaper than copper required for the roller printing of textiles. The amount of color supplied to each screen is regulated by a manually operated valve.

It is stated that only a few seconds are required to fit the squeegie to its carrier. Very fine outlines on lightweight materials and large blotches on heavy goods reportedly present no problems for the squeegies as their pressure is adjustable. The squeegies have almost no effect on the screens because the rubber is thin and flexible, it is claimed.

The Stork Micromatic automatic repeat control, a major component of the printer, is said to guarantee the accuracy of each repeat to 1/100th of a millimeter. In addition, any deviation of the blanket can be arrested by an aligning roller.

After completion of the printing process, the fabric goes to a drier where it is made smudge-proof by a hot-air jet system and then dried by passing through several rollers. The tension of the fabric in the drier, depending on its weight, can be adjusted by means of a three-position electric voltage regulator. Two types of driers for maximum cloth widths of 51 and 65 inches, respectively, are available.

One electric motor ties together the entire printing cycle. The production run is adjustable by means of a remote controlled variable speed drive. All electrical equipment, including the main switch, individual motor switches and fuses, are mounted in an enclosed box. Signal lamps on the control panel indicate the operation of the individual motors.

It is claimed that the printing blanket has a high resistance to wear and tear and stains from all printing pastes, including pigments. A Stork multirotor blanket washer, mounted on the main frame of the machine to allow quick opening, has a number of rotating stainless-steel discs which spray the cleaning medium with great force and speed against the blanket. The blanket washer works without brushes or abrasive force.

Aside from the production rate, the chief economies permitted by the Stork are said to fall in the areas of color and design changes.

Color changes in the Stork installation require only one-fifth the time used on the roller press system, a company official points out.

The Stork screenprinting machine is said to be economical essentially for press runs of 3,000 to 25,000 yards, but it is said to make smaller and larger runs profitable, too. Although it can be used for other types of fabrics, the Stork reportedly excels on woven and knit goods and synthetics. Lately, the machine has been reported quite successful in printing quality fabrics for ladies' dresses.

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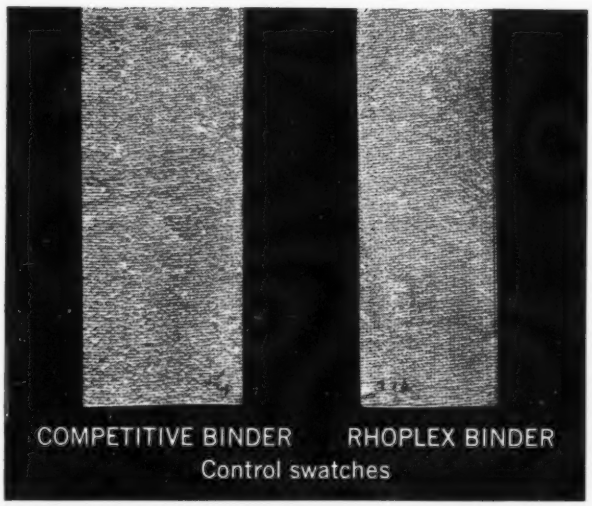
Moisture Detector, Model RC-4

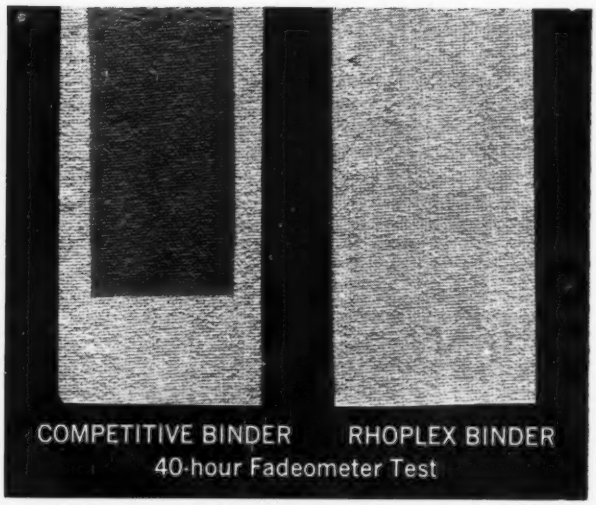
Delmhorst Instrument Co, 668 Cedar St, Boonton, NJ, has introduced a new, low-cost moisture detector, Model RC-4, which is claimed to be suited to the measurement of moisture content in a wide variety of textiles.

The Model RC-4 will precisely check the moisture content of material in storage or in process without waste or loss of material, it is claimed. Tests reportedly take less than a minute.

After initial standardization of meter to check batteries, electrode is applied to test material, and meter read. The actual moisture content is obtained from the conversion table or can be read direct on the dial for a particular material.

The Delmhorst Detector is battery operated and reportedly requires no maintenance or service other than replacement of low-cost batteries about once a year. Line operation can be provided if desired.





Durable non-woven fabrics begin with RHOPLEX binders

You can process durability right into non-woven fabrics with RHOPLEX binders, and get a number of other advantages as well. RHOPLEX acrylic emulsions are clear and are virtually sun-proof. They do not normally discolor or have a stiffening effect on fabrics as they age. And RHOPLEX resins strongly resist breakdown by cleaning solvents, soaps and detergents.

On both woven and non-woven fabrics, RHOPLEX resins are valuable binders for pigments. Colors stay bright. RHOPLEX can also be used to give a desirable "hand" to woven fabrics, and is widely used as a backing for upholstery goods.

Get technical descriptions of RHOPLEX resins useful in textile finishing by sending a request, on your company letterhead, today.

RHOPLEX is a trademark, Reg. U. S. Pat. Off. and in principal foreign countries.

Chemicals for Industry

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RHOPLEX

Perma Kleers 95 and 312

Refined Products Company has introduced two sequestrants for scouring and bleaching cotton fabrics. Said to be completely new in concept, these products reportedly form stable chelates with iron, manganese, and copper even in the presence of strong oxidizing agents. Hydrogen peroxide, sodium hypochlorite, sodium chlorite, sodium chromate, or potassium permanganate does not oxidize the organic molecule or destroy the chelating efficiency of these products, it is claimed.

Up to the present time, the sodium salts of diethylene triamine pentaacetate, ethylene diamine tetra-acetate, hydroxy ethyl ethylene diamine triacetate, and other related amino acids have been the most widely used sequestrants for this purpose, but according to Refined Products Co, all are subject to complete loss of chelating efficiency in the average peroxide bath in fifteen minutes to one-half hour, depositing the metal ions previously chelated back on the cloth. It is stated that the destruction of the chelate structure is caused by oxidation of the amino-nitrogen and loss of the nitrogen-metal bond. Perma Kleer 95, Perma Kleer 312, and their metal chelates reportedly are not affected by solutions of oxidizing chemicals, even concentrated nitric acid, and are able to maintain chelate stability where oxidation is a problem.

Perma Kleer 95 is recommended by RPC for use in alkaline scouring operations to remove calcium, magnesium, iron, manganese and copper ion from the water as well as the fabric. It is said to be most effective in alkaline baths where its economy and chelate stability may be utilized.

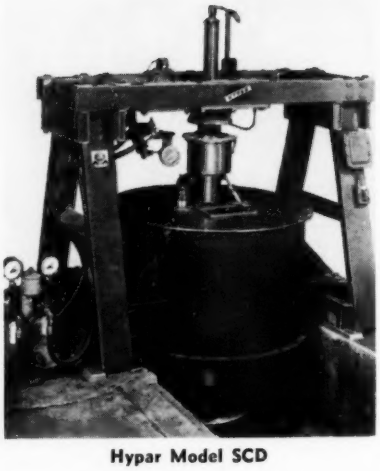
Perma Kleer 312 is designed for use directly in the bleach solution where it reportedly will remove metal ions from solution and inactivate any copper, iron, or manganese carried over by the cloth. Catalytic degeneration of the peroxide will be eliminated, and the deleterious effects of oxycellulose formation, such as loss in tensile strength and holes, will be prevented, it is claimed.

•

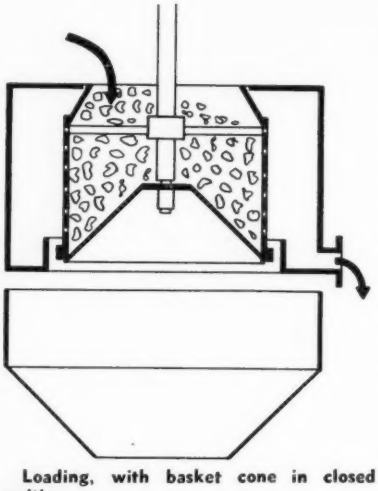
Hypar Model SCD

A new centrifugal dryer, the Hypar Model SCD recently developed by American Tool & Machine Co, Boston, Mass, is a new approach to automatic discharging.

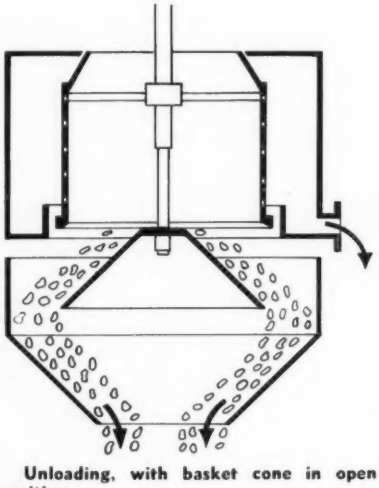
Said to be an outstanding advancement over the usual batch-type centrifugal design is elimination of the discharger and consequent elimination of major expense and maintenance items that are serious accident hazards. Further, it is said to eliminate possible damage to centrifugal screens and linings and also breakage and pulverization of crystalline products.



Hypar Model SCD



Loading, with basket cone in closed position



Unloading, with basket cone in open position

AT&M's new centrifugal dryer is claimed to be completely adaptable to any required degree of automation. It can be loaded standing still or rotating slowly, as required. Automatic discharge of bulkier solids is said to be faster and easier because bottom opens to full inside diameter of basket. The Hypar Model SCD is now currently being used for textile reclamation.

•

Vinyl and Styrene Resins for Bonding Nonwovens

Fibrous vinyl and styrene resins are now available in developmental quantities for testing as binders in the production of nonwovens, from Union Carbide Plastics Co, Division of Union Carbide Corporation.

Fiber lengths vary from very short to a maximum of 3/16 inch. The fibers are very irregular in shape with diameters ranging from two to 200 microns. The vinyl resin is designated VXKA-6112 and the styrene resin, SXKA-0121.

Mats of cotton, rayon and Dynel modacrylic blended with the new Bakelite fibrous resins have been formed on a wool card and also on a Garnett. The mats are hot-calendered to form dense-structured nonwovens.

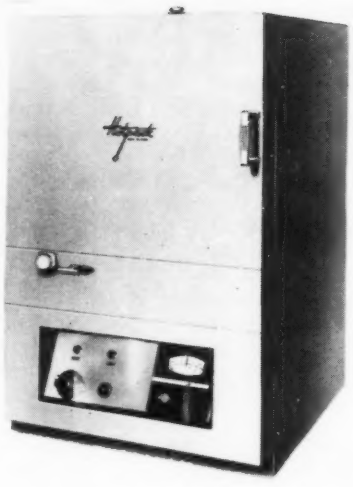
•

New Chloro Compounds

New, low-cost chloro compounds with reactivity characteristics similar to benzyl chloride are being offered free in research quantities of one pound or more by Engineering and Development Div, International Minerals & Chemical Corp, Skokie, Ill.

The four compounds—monochloromethyl alkylbenzenes, bis (chloromethyl) alkylbenzenes, chloromethyl methylnaphthalenes, and polychloro methylnaphthalenes—are said to be particularly attractive intermediates; they reportedly have a higher molecular weight, lower volatility and 30 to 200 percent lower cost than benzyl chloride, a-a′-dichloro-p-xylene, or a-chloro-p-xylene. Many types of derivatives have been made readily in high yields, including esters, ethers, quaternary compounds and amines, it is claimed.

The bis (chloromethyl) product, a low-cost bifunctional compound, is said to be potentially useful in all types of polymers. It can first be converted to glycol. The methylnaphthalene compounds are made with mixed methylnaphthalenes.



Hotpack Mechanical Convected Oven

Mechanical Convected Oven

Electric Hotpack Co, Inc, 5026 Cottman St, Philadelphia 35, Pa, is now producing a new mechanical convected oven designed for short heat testing, drying, analytical work and other temperature testing and conditioning processes applicable to the textile industry.

The following specifications and advantages are cited by the manufacturer: temperature range: 35-350°C; calibrated thermostat dial allows direct setting of desired temperatures . . . controls setting within 1°C over the full temperature range; wattage selector switch regulates input heater wattage . . . eliminates heat surges; automatic overtemperature controller breaks the heater circuit in event chamber temperatures exceed control setting; prevents costly damage resulting from overheating or unauthorized thermostat adjustments; control panel recessed and protected by a Plexiglass cover; cabinet constructed of heavy-gauge enameled steel; interior finished with 18-8-gauge polished stainless steel.

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Eversan SP

A new bacteria-fighting spray, designed to give long-lasting germ protection to garments, rugs, drapes, upholstery and other household items, is due on the market.

The new spray, called Eversan SP, was developed by Ions Exchange & Chemical Corp (I-X), New York, NY. It is handled by Yardney Chemix Corp, also of New York, sole US sales agents for I-X.

This new product is a spray-on version of the antibacterial textile treatment, Eversan. Used in a number of mills, and finishing and manufacturing plants, Eversan is a government registered permanent fabric bacteriostat.

Evolving from 10 years of intensive research, Eversan and Eversan SP are said to provide lasting protection against a multitude of bacteria, including odor-causing germs. Unlike surface-purifying treatments, Eversan reportedly becomes a part of the fabric—whether cotton, wool, nylon, sponge, plastic or other synthetics.

It is said to retain its antibacterial efficiency for the lifetime of the article, even through cold, warm, or near-boiling water washes, with detergents or bleaches. According to I-X, it won't stain, and is completely colorless, odorless and nontoxic.

This recently patented spray reportedly will be available in both pressure cans and bulk units to be used with spray guns. Negotiations are under way for national distribution of the aerosol cans. A special package is planned to contain an additional mothproofing agent. Currently estimated retail price for a 10-oz aerosol can of Eversan SP is less than $1.75. The spray incorporating the mothproofing agent is expected to sell for less than $2.00 a can.

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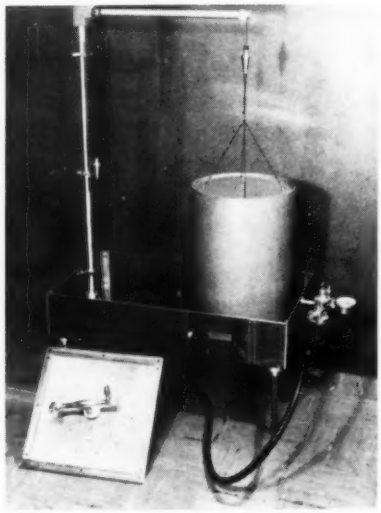
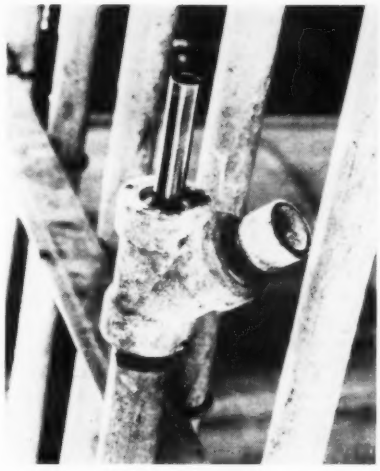


Model CS-114 Filling Power Apparatus

Filling Power Apparatus

Custom Scientific Instruments, Inc, Kearny, NJ, has added the Filling Power Apparatus, Model CS-114 to its line of standard equipment manufactured. This apparatus is intended for determining the space-filling capacity of bulk fiber filling materials. Military Specification MIL-F-5652C is referenced for information on use of this apparatus.



Disconnected coupling at Kuehne Chemical Co shows titanium tube within jacket of galvanized steel pipe. Steel pipe conveys cooling water to reduce temperature of sodium hypochlorite solution carried by titanium. Steel pipe, at lower end of Y connection, would normally connect with plastic pipe to carry water to another line. Titanium tube carries cooled solution to storage. Titanium is Republic Steel's RS-55 grade.

Versadye Nets

Manufacturers and contract dyers in the hosiery, leotard and sweater fields are now being supplied with a newly introduced net bag of 100% Dacron by Fablok Mills, Inc, Irvington, NJ. This latest development in unit net-dyeing is said to outlast the previously used cotton nets by many months.

Fablok's Versadye nets are reportedly made for as few as three dozen childrens socks or large enough to contain up to 25 lbs of circular knitted sweater fabric. The Dacron net is described as "excellent for use in bleaching and dyeing" as it is reported to be resistant to even the strongest bleaches and to be impervious to almost all of the acid-base colors required in dyeing Orlon, Ban-lon or other new synthetic yarns. When dyeing pastel acetates, most dyers also specify the use of the same color pastel nets, from lot-to-lot, instead of the extra process of stripping and scouring now necessary with old-fashioned cotton bags, it is claimed.

Jack Rachleff, Fablok Mills' industrial products vp, estimates that the new Dacron Versadye nets will outlast cotton 5 to 1 because of their abrasive resistance and high tensile strength. A similar net, recently developed by Fablok for use in intercontinental missiles, holds a drying agent that protects the delicate instrumentation from possible moisture and corrosion prior to being launched into space.

New Remazol Dyes

Carbic-Hoechst Corp, 451 Washington Street, New York, NY, distributors for Farbwerke Hoechst AG, Frankfurt-Hoechst, West Germany, has added the following dyes to its Remazol series of vinyl sulfon reactive dyes:

Remazol Yellow GGL
Remazol Yellow GR
Remazol Brilliant Red BB
Remazol Brilliant Blue B
Remazol Golden Yellow Y
Remazol Brilliant Orange RR
Remazol Brilliant Violet 5R.

The line is now comprised of 15 products, all of which are said to have excellent fastness to washing and show many exclusive features, due to the Remazol linkage with cellulosic fibers.

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Cesco Steel Drum Dumper

Cesco Steel Drum Dumper

From Conveyors and Dumpers, Inc, Division of Mercury Industries, Hillsdale, NJ, has come automation for handling steel drums . . . the Cesco Steel Drum Dumper, which is designed to operate at lifting heights from 12″ up to 50′, emptying its contents into mixers, tanks, tumblers, chutes, conveyors, hoppers, etc. CDI states that manual labor is kept to a minimum and, with the added factors of easy loading, speedy dumping, and reduced job accidents, it means appreciable savings. Rated capacities are from 100 to 5,000 lbs depending upon unit selected. The Cesco Dumper handles powders, granulars, and liquid of heavy viscosity. Free-flowing liquids are not feasible due to splash-back. A comprehensive six-page folder is available from CDI upon request.

Model 88 Core Crimper

The development of a new versatile machine to produce package-dyed crimped yarn was announced on April 25 by Joseph Bancroft & Sons Co, owners of the Ban-Lon and Textralized trademarks.

Known as the Model 88 or core crimper, the apparatus is expected to enhance the production of Textralized yarn, thereby adding substantially to the expansion of the Bancroft programs for Ban-Lon fabrics and garments.

Bancroft officials say the machine makes possible such striking textile advances as package-dyeing of crimped yarn, maintenance of high bulk level, and the possibility of crimping a much wider variety of fibers and filaments.

Designed by Bancroft engineers and produced under their direction by the Foster Machine Company, the Model 88 crimpers are now being subjected to practical in-plant commercial application on a field-test basis.

Experimental units of the equipment have been shipped to many of the company's yarn licensees. Meanwhile, a shakedown is underway to finalize the design of the production machine.

One of the immediate important advantages of the development, according to Bancroft technicians, lies in a method of operation that makes package-dyed crimped yarns available for the first time in the industry. Up to now, modified filament yarns of this type were either skein-dyed or muff-dyed. Package-dyeing in this case is said to be more efficient than skein-dyeing or muff-dyeing, and is preferred for its better uniformity of both dye and yarn, as well as for its versatility and for the handling of larger dye lots. However, package-dyed yarns previously were difficult to produce because of the extremely high loss of bulk in the yarn which resulted from this method of dyeing.

By eliminating this loss of bulk, the Model 88 crimper reportedly will enable Bancroft licensees to package-dye Textralized yarns and still maintain the desired bulk level. The degree of bulk attained in experiments so far has been extremely high, it is claimed.

The company reports that the results of package-dyeing which the crimper makes possible are very encouraging, even at this early stage. Jacquard patterns are said to show up sharp and clear, in well-defined patterns. Single-color fabrics reportedly appear clear and uniform, with a satisfying depth.

While Bancroft technicians concede that the machine has not yet been perfected to the degree that assures maximum efficiency, they are quite enthused over its present perfomance and future potential. Beyond the crimping and dyeing of continuous filament yarns, they see many other possible uses for the equipment in the near future.

At present, Bancroft is setting up a training course in its Wilmington plant for the purpose of imparting detailed instruction in the basic functions, operation, and possibilities of the new crimper.

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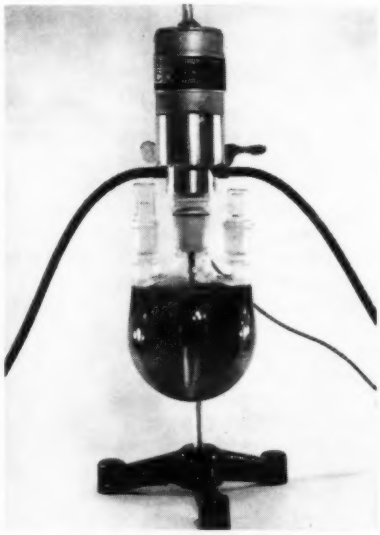
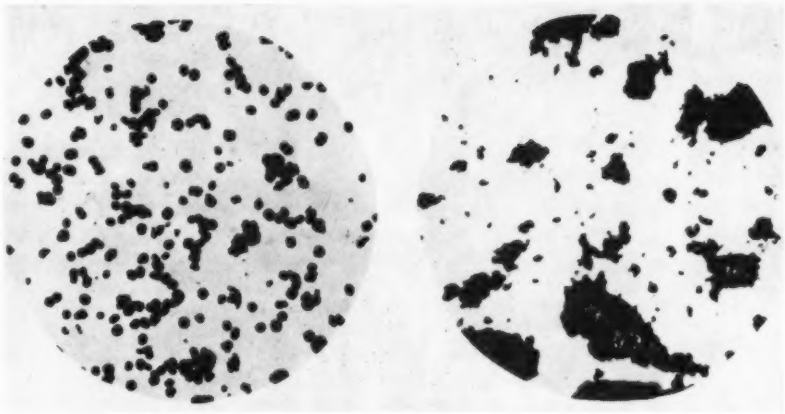


Asco Hiltch-type stirrer

Hiltch-type Stirrer

A versatile Hiltch-type stirrer for the laboratory has been introduced by Arthur F Smith, Inc, 311 Alexander St, Rochester 4, NY. Positioned by flask and joint, it reportedly may be used in any size flask from 500 to 12,000 ml by means of five shaft extensions. A Teflon-covered 34/45 joint with an Asco O-ring seal is designed to provide vacuum-tight operation to 10-8 mm Hg.

Used for either high- or low-viscosity fluids, it is said to be universal in application. The Asco stirrer emulsifies, homogenizes, or stirs by adjusting speeds (0 to 2500 rpm), which are regulated by electronic controls. A water-cooling mechanism enables stirrer to operate at flask temperatures above 100°C. The O-ring seal reportedly eliminates use of greases for vacuum-tight operation and ends contamination problems. Stirrers are available in type 316 stainless steel or Teflon-coated. Adapters are available for large joint sizes.



Microthene finely divided polyethylene is available from U S Industrial Chemicals Co in two basic forms. Solution-produced material (left) has small particle size (smaller than 200 screen mesh, or 75 microns) and has a smooth surface. The mechanically ground material (right) has a larger particle size (50 to 200 screen mesh, or 300 to 75 microns), and an irregular shape and surface. Both types are expected to develop their own areas of application.

Microthene

Larger quantities of Microthene, U S Industrial Chemicals Co's finely divided, powdered polyethylene, are now available as a result of the beginning of semicommercial production at Tuscola, Ill, site of one of USI's two polyethylene plants. Initial capacity of the plant is 2,000,000 pounds per year.

According to USI, one of the largest market potentials for Microthene polyethylene in this country is in the field of textile coating. This new form of resin may be used to coat many woven or nonwoven fabrics. It may also serve as a binder for nonwoven materials. In most cases the dry polyethylene powder is spread evenly onto a moving web, which then passes through an oven which sinters the plastic into a film coating. Pressing with a hot iron has been used to bond a coated fabric to another piece of cloth for stiffening. These applications are already established in Europe where finely divided polyethylene has been used for several years.

According to USI engineers, Microthene polyethylene can be used in any one of a number of ways, depending upon the end use. It can be applied in powder form or in water or alcohol dispersions or pastes.

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Dacryl Green LFG

The U S Patent office has granted patent number 2,929,810 to Althouse Chemical Company, a division of Crompton & Knowles Corp.

The patent covers a new dyestuff designated as Dacryl Green LFG, which was developed by Althouse scientists for specific applications to polyester fibers.

Fast-Flo Nylon Strainers

Fast-Flo all-nylon strainers have been developed by Fast-Flo Corp, 1707 Kings Highway, Brooklyn 29, NY, to give fast, simple, economical production straining of emulsions, suspensions, and solutions.

It is claimed that the Fast-Flo strainers are virtually nonclogging and give three to four times as much straining area as conventional strainers. They can be used with gravity or pumping systems. Large production batches reportedly can be run through without hold-up for cleaning.

A bulletin is available from Fast-Flo Corp covering specifications, directions for use and cleaning, and prices.

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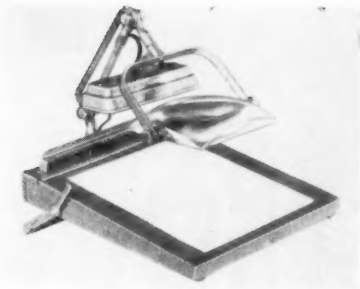
Sandothrene Golden Yellow NRK Double Paste Ultrasperse

Sandothrene Golden Yellow NRK Double Paste Ultrasperse is the latest release in the Sandoz line of vat dyes. It is recommended by Sandoz for pad-steam, Williams unit, package, and pigment pad-jig methods, and may also be printed by flash and conventional aging methods. It reportedly has good washfastness in all depths, and good lightfastness in medium to dark depths is said to make it particularly desirable for drapery applications. Its fastness to peroxide is described as "ideal" for use on yarn which is to be bleached. It is reported to be level dyeing, nonmigrating, and to show a minimum of shade change, with no loss of lightfastness when given the appropriate resin and catalyst aftertreatment.



DSV Viewer

DSV Viewer

An illuminated 3-D magnifying viewer for close tasks or viewing requiring bright lighting and full-view magnification has been developed by Fostoria Corporation. The new viewer, known as Model DSV, features a 6″ × 6″ optically ground acrylic lens that provides full three-dimensional perception. Two four-watt fluorescent tubes highlight the working area, and a soft diffused underlighting is provided by two recessed eight-watt fluorescents under the viewing table base. Underlighting and overhead light may be positioned separately by means of friction collar disc joints. The table also can be adjusted to lie flat or slant. Magnification provided by the 6″ × 6″ lens is said to have good resolution and high visual acuity. It is claimed that, since eyestrain and posture fatigue, experienced with undersize magnifiers, are minimized, speed and accuracy are improved. The model DSV viewer is supplied without lamps in silver-grey finish. For more information, write Fostoria Corporation, Dept 32, Fostoria, Ohio.

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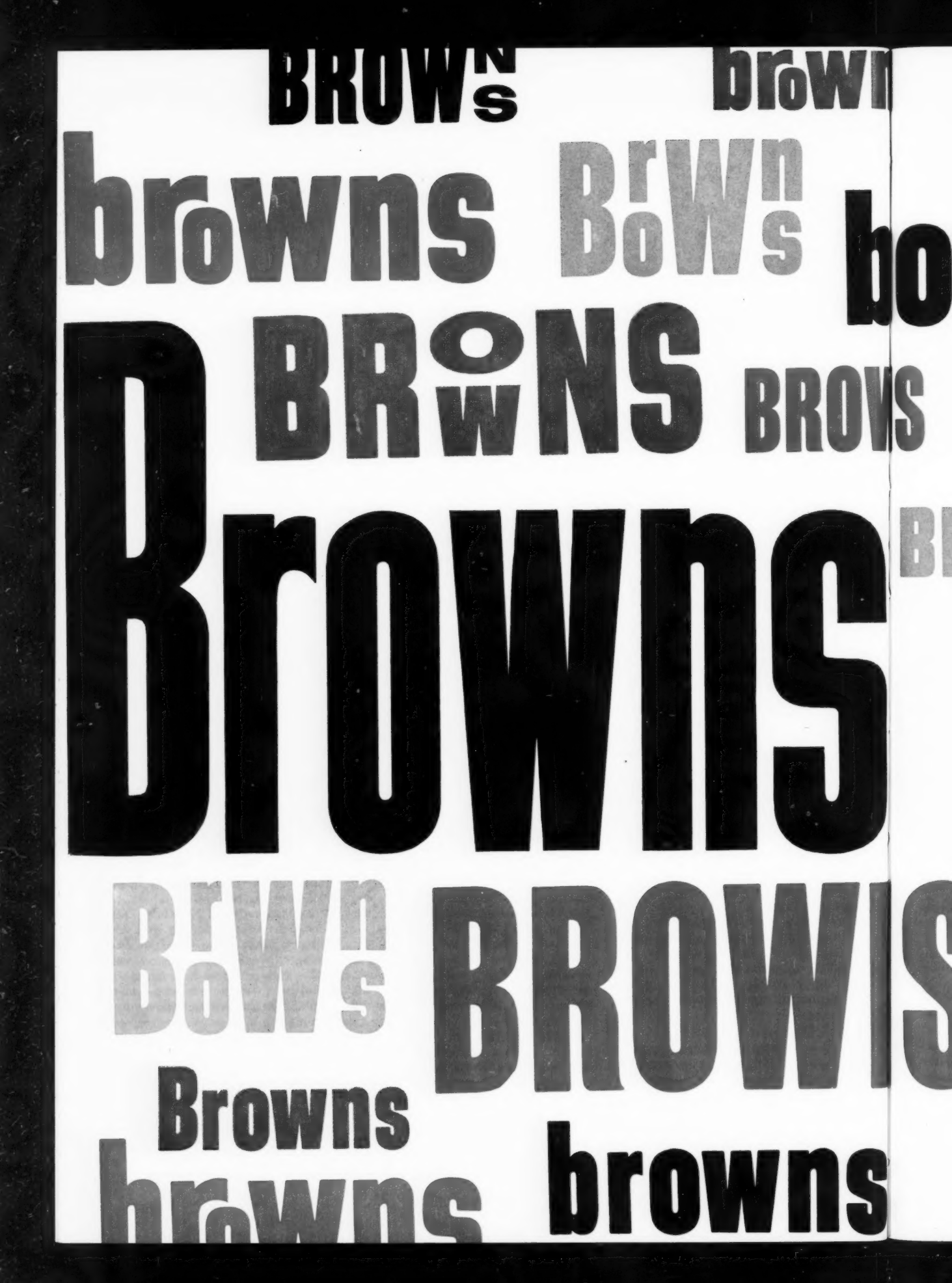
Drum Filling Cover

Dangerous and costly spillage reportedly can be avoided with the advent of a new polyethylene drum filling cover manufactured by the Delaware Barrel and Drum Co, Inc, Wilmington, Del. The need for a plastic drum filling cover that would collect and hold the overflow due to fill-line breakdowns, leaky valves and careless operators caused the company to enter into experimentation and research that reportedly has resulted in a lightweight corrosion-proof cover available in 15-, 30-, and 55-gallon sizes, which will fit standard fill lines on steel, fiber and polyethylene drums. The cover is molded of unbreakable, translucent natural polyethylene with built-in handles and molded pouring lip. Other advantages are its resistance to chemicals and its expandable fill pipe opening.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- They're unsurpassed for printing draperies and other fabrics requiring the highest degree of fastness both to light and drycleaning.
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The Aridye and Aquaprint Browns now being offered include:

ARIDYE	AQUAPRINT
Brown R	"Supra" Brown R
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PC Chromatrol Electronic Controller

Chromatrol Thermistor Remote Temperature Controller

The PC Chromatrol Electronic Controller, a product of Edwin L Wiegand Co, is designed to give highly sensitive temperature control, within 1°F, up to 600°F. The stainless-steel sensing element is a very small bullet-probe only 1″ long and ¼″ in diameter. The pre-aged thermistor probe reportedly may be located in platens, in air ducts and in immersion wells up to 100 feet away from the amplifier-relay cabinet using inexpensive light-gauge twisted lead wire.

Loads up to 10 kw can be controlled directly without a separate magnetic contactor, it is stated, and the unit may be used on 120, 208 or 240 volts, 60 cycles. Scale covers dual-range from 25° to 225°F or 200° to 600°F. The dial-plate control is removable from the amplifier-relay for remote location up to 30 feet away. Thus all controls may be mounted at a single location.

For additional information and prices write the manufacturer, Edwin L Wiegand Co, 7500 Thomas Blvd, Pittsburgh 8, Pa.

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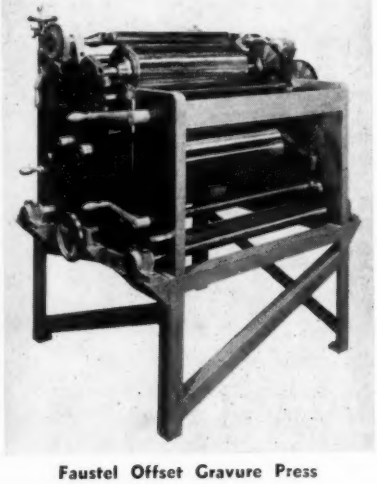
New Type Offset Gravure

A new type offset gravure press, developed and manufactured by Faustel Inc, has been installed at the Pre-Finished Metals Co, Elk Grove, Ill. At Pre-Finish, the press is used for printing patterns and wood grains on metal.

This particular unit is supplied in a 20″ width to suit requirements at Pre-Finish, but the machine can also be supplied in various widths up to 42″. Repeat range is 20″ to 30″. The unit also features an eccentric throw-off mechanism between etched and offset and offset and impress on cylinders. Roller-bearing type gibs on etched roll slide is said to provide smooth, accurate adjustments. The doctor blade mechanism is also said to be easily adjustable. The unit is built with antifriction bearings throughout.

This unit may also be used as a standard gravure press and several units can be mounted in line to print several colors, it is claimed. The unit can be used to print five half tones on 1 heavy or light gauge textiles, paper, etc. Faustel has found that much more tone work can be obtained on rough surface stock with this equipment than with conventional gravure presses.

Further details on the Faustel Offset Gravure Press and other Faustel converting equipment can be obtained by writing to Faustel Inc, 5109 North 125th Street, Butler, Wisconsin.



Faustel Offset Gravure Press

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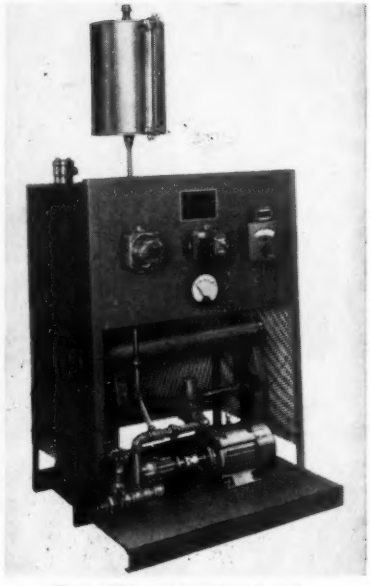
Type PF Automatic Electric Heat Transfer Systems

Radcor, Inc, Bradner, Ohio, has announced a new series of automatic electric fluid heat transfer systems. Designated as Type PF, the equipment is designed and factory prewired for simple hook-up to process equipment such as jacketed pipe lines and kettles, revolving rolls and platens. It may be used with all types of heat transfer fluids.



Type PF automatic electric heat transfer system

Type PF includes, in one complete unit, a Chromalox electric immersion heater, motor and high-temperature pump, by-pass relief valve, strainer, expansion tank, temperature controls, contactors and disconnect switches. All of this equipment, mounted on a steel base with protective grille enclosure, takes six square feet for smaller models, 12 square feet for larger models.

The Radcor electric units are designed to permit heating of liquids without flame-heat-and-boiler facilities. Temperatures reportedly may be selected and accurately controlled anywhere from 100° up to 600°F. Built-in controls are said to eliminate explosion or fire hazard.

Ten models are available in both standard and special voltages and phases. Kw ratings range from 4.5 to 80 with Btu output from 15,350 to 272,000.

For more information write Radcor, Inc, 7500 Thomas Blvd, Pittsburgh 8, Pa.

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Avril to be Produced Commercially by Mid-Summer

American Viscose Corp recently announced that the trademark Avril will identify its new, cellulosic fiber. Known as Fiber 40 in its early development, Avril will be in commercial production by mid-summer.

Use of the name Avril will be confined to fabrics made with this fiber, either 100 percent or in blends, which meet American Viscose Corporation standards of quality control.

Chloregal D Gaining Acceptance

Introduced in America little more than two years ago, Chloregal D, an auxiliary for the shrinkproofing, by chlorination, of wool in an acid bath reportedly has gained wide acceptance by mills making knitting yarns, knit goods, blankets and piece goods.

Chloregal D, a product of Geigy Chemical Corp research, slows down and controls the reaction of chlorine to wool. One drawback to the chlorination of wool is the possibility of unlevel chlorination due to the exceptionally rapid reaction of the chlorine with wool, which is a cause of material losses and production difficulties. Because of this serious drawback, chlorination has usually been restricted to low-grade materials. Chlorinated goods earned the reputation of poor hand, high rate of rejects, lengthy processing, yellowing, and interference with level dyeing and shade matching.

With Chloregal D, it is claimed that the typical lengthy control process is eliminated and chlorination becomes simplified. In a pretreatment, which takes an average of ten minutes, the Chloregal D is added to the acid bath and chlorination proceeds immediately afterward. Chloregal D reportedly enables the dyer to obtain level chlorination of wool with conventional dyehouse equipment at almost any stage of manufacture.

Because of its action in promoting even chlorination, the use of the Choregal process gives more assurance of subsequent level dyeing with a minimum of the special precautions usually associated with dyeing unchlorinated goods, it is claimed.

According to a Geigy spokesman, test and actual work completed so far on a wide variety of woolen materials in yarn, slubbing, cheese and piece goods form, have indicated that washable woolens produced by this process make a good impression and need no apology. The usual reaction is one of disbelief by those who try this process because of the rentention of strength and minimum yellowing shown, resulting in the ability to produce a washable without the blending of nylon to maintain tensile strength.

As a result of the physical and visual benefits of the Chloregal D process, it is stated, materials are in effect upgraded. Geigy suggests that shrinkproofing by chlorination does not have to be confined to low-end goods. Washability can now be applied to high-grade woolens, it is claimed, which accounts for the warm reception Chloregal D is said to be getting from manufacturers of fine woolens.

Geigy sums up the advantages of Chloregal D as an adjunct to chlorination over some of the traditional methods as follows: 1) washability insurance, for high-quality as well as low-grade materials; 2) ease of application; 3) elimination of the prechlorination, post-carbonizing step by neutralizing; 4) uniformity of performance; 5) lower cost, because of shorter processing time; 6) replacement of a time-consuming process with an actual chemical compound; 7) less yellowing; 8) minimum strength loss or reduction of deterioration of fabric; 9) permits level dyeing, with impressive matching of shades.

Geigy has prepared a special manual for textile dyers, "Chloregal D —Recipes for Chlorination," which mills may obtain upon request from local Geigy representatives or by writing to Geigy Dyestuffs, Ardsley, NY. The company is also prepared to conduct mill demonstrations and tests for shrinkproofing and dyeing for firms seriously interested in the process.

The Chloregal D "Recipe Booklet" details chlorination procedures, giving step-by-step treatments, times for each, and percentages of chemicals to be used, liquor ratios and temperatures. Recipes cover yarn in hanks, slubbling, cheeses, blankets, knitwear and piece goods for printing.

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Cyanamid Producing 1,4-Naphthoquinone Commercially

New process and product research approaches for dyes, fungicides, algaecides, pharmaceuticals and various other synthesized organic chemicals are suggested with the pure (98.5% minimum) 1,4-naphthoquinone now available from the intermediate department of American Cyanamid Company.

Formerly offered in sample quantities, 1,4-naphthoquinone is now being produced commercially, making Cyanamid the first producer of a pure naphthoquinone product in this country. In the past, this chemical was available only as an impure by-product of phthalic anhydride production.

Naphthoquinone is a highly reactive, aromatic, bifunctional chemical that undergoes both addition and substitution reactions at its 2- and 3-positions with a variety of chemicals. These reaction products have found use as vat, and azo dyes, pigments, and fungicides, among other applications.

2, 3-Dichloronaphthoquinone, for example, has been suggested as a mildewproofing agent for cotton fabrics and as a fungicide and algaecide. Various other derivatives are used to dye nylon, Dacron and cellulose acetate.

Cyanamid's new production facilities for naphthoquinone are part of a multimillion dollar anthraquinone manufacturing plant at the company's Bound Brook, NJ, location. An outdoor-type continuous processing installation with panel-board control, the new plant covers approximately two acres and uses a completely new manufacturing process developed in the company's research laboratories.

The practicality of the process was successfully demonstrated in pilot-plant operations that produced the sample quantities of 1,4-naphthoquinone.

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Flamort—"U"

A new flameproofing chemical for the treatment of textiles containing acetate rayon fibers has been announced by the Flamort Chemical Co, 746 Natoma St, San Francisco 3, Calif.

According to Walter Hearst, president, the fire retardant, designated as Flamort-"U", will successfully flameproof difficult-to-treat fabrics such as acetate rayon and nylon, as well as mixed fibers, such as acetate rayon and cotton, acetate rayon and linen, etc.

Flamort-"U" has been approved by the California State Fire Marshal and meets requirements and specifications of the National Fire Protection Association and ASTM D626-41T.

Flamort-"U" is colorless, and reportedly will not affect the tensile strength of any material to which it is applied. It is available in concentrated form in 12-, 15-, 21-, 51-, 99- and 198-lb drums, or in ready-to-use one- and five-gallon cans and 55-gallon drums.

The concentrate is dissolved in water at the rate of three pounds of Flamort-"U" to one gallon of water, and is applied by spraying or immersion. Although the treatment is described as "permanent", fabrics require retreatment after laundering. One gallon of Flamort-"U" solution reportedly will treat approximately 100 square feet of heavy material, or up to 200 square feet of light-weight fabric.

A three-pound sample may be obtained without cost from Flamort Chemical Co.

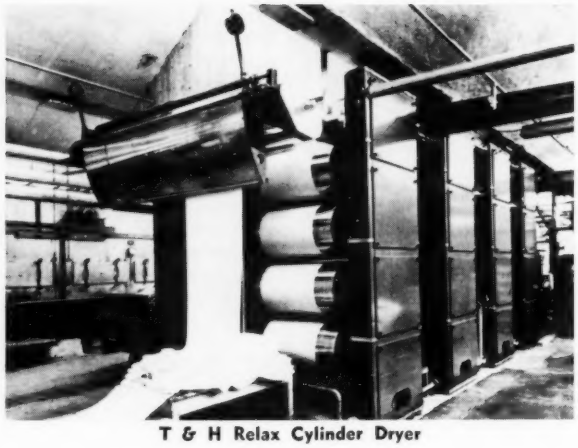
Relax Cylinder Dryer

In the process of drying fabrics on dry cans, tension and damage of the materials reportedly can be prevented by means of a new elastically driven and fully automatic Relax Cylinder Dryer designed and patented by Tattersall & Holdsworth's, Enschede, Holland, which is now engaged in full-scale production of the dryers. The company has appointed Ernest L Frankl Associates, New York, NY, as its representative to handle sales in the United States.

According to an announcement from the manufacturer, the Relax Dryer now permits maximum drying entirely without tension, even of materials such as woolens, worsteds, synthetics, and nonwoven fabrics. In addition, the machine reportedly provides improved dyeing and printing results, protects printed designs, and prevents migration of dyes.

When applied to the cylinder dryers, the Relax drive gives each cylinder an individual self-adjusting drive through special elastic belts. By varying the speed of the first feed cylinder, the cloth tension can be set to any required value from zero upwards. In addition, the Relax drive can be interchanged with the conventional fixed drive, giving surface speed to all cylinders.

Cylinders in the Relax dryer are made of stainless steel, and they are balanced and mounted on self-aligning sealed ball bearings. The rotary joints or dollheads in the mechanism are designed to prevent loss of steam and require no maintenance. The torque is less than 0.05 kg/m or 0.36 ft/lb.



T & H Relax Cylinder Dryer

The absence of gear wheels guarantees noiseless operation, even at the highest speeds, the company states. Separate steam traps to each cylinder reportedly ensure effective drainage through syphon pipes and increase the drying capacity by approximately 15 to 20 percent. The main drive can be operated by push-button control with variable speeds. Batches can be changed without causing permanent marks on the fabric by switching into slow motion, it is claimed. The reduction gear for the main drive is enclosed entirely. All shafts and pulleys are mounted on ball bearings. Installation of a moisture content meter to allow automatic speed control is possible.

Tattersall & Holdsworth's point out that viscose, acetate, spun rayon and other synthetics can be dried as free of tension as on a short loop or air lay dryer. The Relax dryer also is said to give these fabrics a crease-free and smooth surface. Cottons do not receive a closed surface. Thus, their absorbency is considerably better than if dried on conventionally driven cylinders. Inasmuch as the tension can be varied as required, the appearance of textiles can be altered according to specifications.

Migration of dyes, resins or other chemicals is substantially reduced with the Relax cylinder dryer, it is claimed. This is accomplished by the greatly diminished tension. Thus, the machine can be utilized to advantage for pigment padded or resin-treated fabrics. Company spokesmen add that, because there are no gear wheels, grease splashes, which often stain fabrics, can't happen with the Dutch machine.

For further information, write the Netherlands Trade Commission, 551 Fifth Avenue, New York 17, NY, or Ernest L Frankl Associates, 515 Madison Ave, New York, NY.

BASIL D BROWDER, 61, executive vice president of Dan River Mills, Inc, died April 1 at his home in Danville, Va. The cause of death was diagnosed as a cardiac arrest.

Mr Browder was employed by Dan River in December, 1916. Rising progressively through positions of increasing responsibility, he was elected vice president in charge of manufacturing in 1949, a member of the board of directors in 1950, and executive vice president in 1952.

•

RALPH F CULVER, a charter member of AATCC and past chairman of the Rhode Island Section, died April 15 in Providence, RI. Born August 1, 1881 in Groton, Mass, Mr Culver was prominent in the textile and dyestuff fields, in which he had worked until his retirement from Ciba Co, Inc, in 1946. He had lived in Providence since 1918.

RALPH F CULVER

He received his preliminary education in the Groton public schools, and was a member of the Class of 1904 of Lowell Textile School. In his youth, Mr Culver worked for the Glenlyon Print Works, Holliston Mills, Arnold Print Works and Joseph Bancroft & Sons Company. In 1921 he joined Ciba Company, Inc and became a vice president, director and manager of its Providence office.

Mr Culver was also a director of Culver Advertising, Inc of Boston and a member of the Providence Engineering Society.

He is survived by his wife, two children and six grandchildren. Funeral services were held on April 18 at Central Congregational Church in Providence and were followed by burial at the Groton Cemetery at Groton.

•

CARL C HARRIS, chairman of the board of directors of the Rodney Hunt Machine Co, Orange, Mass, died Monday, April 4, in Franklin County (Mass) Hospital after a brief illness at the age of 79.

Mr Harris began work at Rodney Hunt in 1904 as superintendent. From then until 1956, he served successively as treasurer, then president. Since 1956, when he retired as president, he had been chairman of the board.

• NAMES IN THE NEWS •

Gillick

American Felt Company has announced the appointment of *Thomas J Gillick Jr* as manager, product application and engineering, in the Market Division. Creation of the new position was stressed by General Sales Manager R Power Fraser Jr as an important forward step in the company's overall marketing program in technical promotion of wool and synthetic fiber felts and felt products. Mr Gillick will be located at the General Offices in Glenville, Conn.

As manager of the Engineering and Research Division and a member of the New Products Planning and Development Committee, Mr Gillick was actively concerned in developing new products and applications for wool and synthetic fiber felts. Gillick joined American Felt Company in 1949 as chief chemist and director of quality control at the Glenville plant.

Mr Gillick is chairman of AATCC's Intersectional Contest Committee and past treasurer and chairman of the Western New England Section.

•

Atlantic Refining Company has announced the appointment of *Frank W Chapman* as manager of product development and technical services division of the firm's marketing department. He succeeds *John G Geniesse* who is retiring after 35 years' service with the company.

Dr Chapman was employed by Atlantic as an associate chemist in 1950. Prior to his new appointment, he was director of the analytical section in the research and development department.

•

Sallie A Fisher, previously with Rohm & Haas Company, Philadelphia, has joined Robinette Research Laboratories, Ardmore, Pa, consulting organization for textiles and other industries, as associate director of research.

Dr Fisher will be responsible for project initiation, supervision and control, and will serve as consultant in the field of ion exchange chemistry.

La Porte

Black

Stepan Chemical Co, Chicago, Ill, has named *Walter N LaPorte* director of manufacturing of the Industrial Chemicals Division. In his new position, Mr La Porte, who was previously employed by Monsanto Chemical Co as manufacturing superintendent at its Boston plant, will be responsible for all manufacturing operations of the Division.

Eldridge J Black, formerly vice president of sales for Stepan, has become vice president and general manager of Stepan's Industrial Chemicals Division.

Products of the Division include a line of surface-active agents and such materials as methyl esters, nonyl phenol, and p-tertiary butyl phenol.

•

Arch J Mease, manager of Du Pont's Western district office for the sale of dyes, chemicals, and elastomers, retired at the end of April after a 43-year career.

Born February 6, 1896, in Chicago, Ill, Mr Mease received his bachelor of science degree in chemical engineering from the Armour Institute of Technology (now the Illinois Institute of Technology) in 1917.

Mr Mease began his career as a chemist at the Carrollville, Wis, plant of the Newport Chemical Company (later acquired by Du Pont). In 1955, he became district manager of the western district office, which is a district office for the Elastomer Chemicals Department as well as the Dyes and Chemicals Division of the Organic Chemicals Department.

•

Arnold M Sookne, associate director, Harris Research Laboratories Inc, Washington, DC, and vice chairman of the Washington Section, AATCC, has been awarded the fellowship of The Textile Institute, Manchester, England.

•

Charles S Fowler has joined Forbes Marketing Research, Inc as consulting research associate specializing in marketing studies for the textile industry.

Turner

United States Testing Company, Inc, has announced the appointment of *G R Turner* as manager of textile sales.

Mr Turner has been associated with the Company for the past 30 years. His new duties will include supervision and co-ordination of all textile sales activities.

•

William B Yarborough has been appointed a vice president of Allied Chemical's National Aniline Division, where he will be responsible for the research, development and engineering areas.

Mr Yarborough joined Allied Chemical Corporation in 1936. In 1958, he was made assistant to the president of National Aniline.

•

Food Machinery and Chemical Corporation has named *D Stewart Quern* to the newly created post of senior sales coordinator for industrial chemicals in the southeastern territory for FMC's Chemical Divisions. Mr Quern was previously southern sales manager of the Becco Chemical Division of the Corporation.

In his new position, Mr Quern will work with all chemical divisions of FMC to coordinate their contacts with customers and to expand sales of FMC industrial chemicals. He will report to *D C Oskin,* vice president of executive sales for the chemical divisions. The Divisions to be served are Becco Chemical, Chlor-Alkali, Mineral Products and Chemical & Plastics where applicable.

•

William F Brommelsiek has joined Mohasco Industries, Amsterdam, NY, as manager of dyeing research and development.

Mr Brommelsiek was formerly manager, applications services, dyeing and finishing for The Chemstrand Corp, Decatur, Ala, and prior to that served as assistant director of research at Forstmann Woolen Co, Passaic, NJ.

Halford

Fuchswanz

Bonnar

Joseph Halford has joined Stein Hall & Co, Inc as sales technician to the textile industry. He is assigned to the company's Charlotte branch sales office and will service the printing and finishing textile plants located in Virginia and the Carolinas.

Mr Halford has been employed by the West Point Mfg Co and Riegel Textile Corp.

●

Imperial Color Chemical & Paper Department of Hercules Powder Co has announced the following appointments: *Alfred E Van Wirt* as assistant to *Arthur F Brown*, general manager; *Nathan W Putnam* as assistant general manager-director of pigment color sales; *Laurence R Sherman* as manager of the Pigment Color Division.

●

Leon Seidel, customer service representative for The Dow Chemical Company's fibers sales department, will shortly transfer to the New York office as merchandise manager for filament products.

In his new post, Seidel will supervise merchandising activities on behalf of Lurex metallic yarns and Rovana saran micro-tape for the textile fibers department. He will report to *A S Gould*, New York office manager.

Seidel, who was formerly with the Dobeckmun Co, has been based at fiber headquarters in Williamsburg for the past twenty months.

●

Vincent T Elkind has joined Gagliardi Research Corp, East Greenwich, RI, as senior research associate.

Mr Elkind has fifteen years experience as an organic research chemist, having been associated with Rohm & Haas Co and International Packing Corp.

●

Donald J Gardner, senior in the School of Textiles at North Carolina State College, is the 1960 winner of the $400 Keever Starch Company Scholarship at the college.

Mr Gardner will graduate from State College in June with a BS degree in textiles, specializing in quality control.

Venango Engineering Co, Philadelphia, Pa, has announced the appointment of *William A Fuchswanz* as sales manager of the company's Textile Machinery Division. Mr Fuchswanz is a former sales representative of Smith, Drum & Co, and has been actively engaged in the textile industry for more than 20 years.

Harry McCandless, formerly sales manager of Venango, has been placed in charge of the Special Products Division and purchasing activities. Venango Engineering is celebrating its 25th anniversary as a producer of dyeing, extracting and drying machinery for hosiery, raw stock, packages and beams. In recent years, particular emphasis has been placed on dyeing equipment for the new synthetic fibers. The company's latest machines will be exhibited at the American Textile Machinery Exhibition in Atlantic City, May 23-27.

●

Antara Chemicals, a sales division of General Aniline & Film Corp, has announced the appointment of *Frederick W Morgart Jr* as sales engineer in charge of Antara field sales in the Minneapolis, Minn, area, and *Joal Sugarman* as field sales representative in northern and western Texas and Oklahoma.

Mr Morgart was formerly with Standard Oil of Indiana.

Mr Sugarman, who was a chemist with GAF's Central Research Labs in Easton, Pa, has relocated in Dallas, Texas.

●

Appointment of *John van der Dys* as manager, International Division, Century Chemical Corp has been announced. He will be responsible for sales, sales promotion and international trade.

Mr van der Dys has had many years experience in import and export sales having been associated with companies in this general field in the United States, Cuba and South America. Prior to joining Century, he was assistant credit manager specializing in export sales for the International Division of Olin Mathieson Chemical Corp.

J Robert Bonnar, director of marketing of the Dyestuff and Chemical Division, General Aniline & Film Corp, celebrated his 25th anniversary with the company at a luncheon given by 20 of his business associates on April 15th at Cavanagh's Restaurant, New York.

Mr Bonnar, a native of Fall River, Massachusetts, joined General Dyestuff Company, a Division of General Aniline & Film Corporation, in 1935 as a technical representative in the Sales Department. In January of 1939 he became technical director, in 1953 he was advanced to the position of sales manager until his appointment as director of marketing in 1959. Before becoming associated with General Aniline & Film Corp, he was technical director of American Printing Co, a company which he had joined in 1927 as assistant chemist, and left upon the company's liquidation in 1935.

Mr Bonnar is a graduate of the Massachusetts Institute of Technology and holds a Bachelor of Science degree, awarded in 1927. He also took special courses at MIT and Brown University from 1927 to 1931.

He is an active member in a number of professional, technical and business organizations, including 25-year membership in the American Association of Textile Chemists and Colorists, during which time he has served as chairman of the General Research Committee, the Executive Committee on Research, vice president and president of this Association.

●

The Fibers Division of American Cyanamid Company has named *Herbert C Haller* manager of the fibers application laboratory at its Bound Brook, NJ, plant.

Mr Haller has joined Cyanamid from a post as assistant to the president of the American Conditioning House, Inc, Boston.

●

Herbert Hoover, former President of the United States, was awarded honorary fellowship of the Textile Research Institute at its 30th annual meeting in March.

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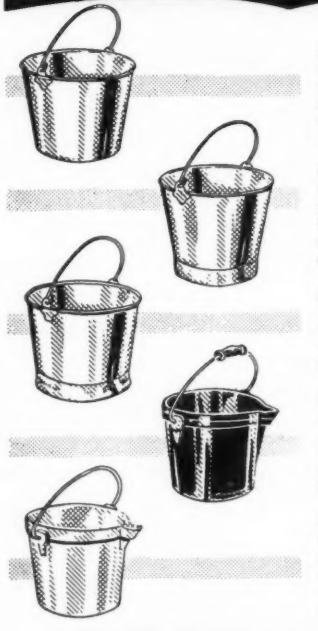

STAINLESS STEEL. Heavy gauge and seamless, with extra thick rims and bottoms, these pails can take rough handling without life-shortening effects. Plain or chime bottom. Sizes: 13, 16, and 20 quart.

TYPE 316 STAINLESS. For extra corrosion resistance with acids and other corrosive chemicals, Type 316 Stainless pails should be used. Plain and chime bottom. Sizes: 13, 16, and 20 quart.

MONEL. These welded Monel pails remain virtually unaffected by the corrosive attack of brine, most types of volatile fluids, acids and alkalies. Sizes: 12, 14, 16, and 20 quart.

HARD RUBBER. Made with a virgin rubber base, this pail will not crack or chip; it resists abrasion, heat distortion, and the corrosive action of a wide variety of chemicals. Capacity, 3 gallons, graduated 1 to 12 quarts.

POLYETHYLENE. Unbreakable and quite chemically inert, this pail is molded in one piece, with bale handle and broad pour spout for easy pouring. Extra heavy construction. 2½ gallon capacity only.

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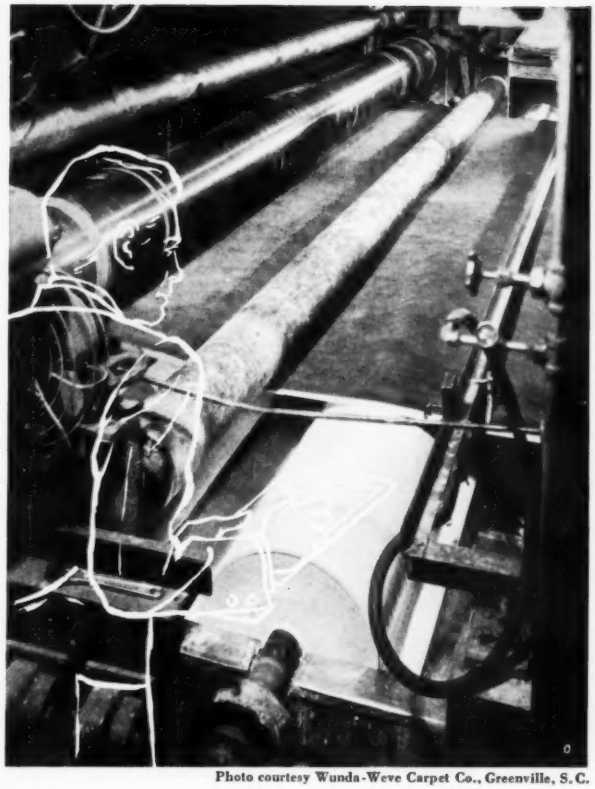

Photo courtesy Wunda-Weve Carpet Co., Greenville, S.C.

HOW THE SILICONES MAN HELPED... DEFOAM RUBBER LATEX AT LOW COST

Manufacturers of rubber latex, and their customers in the textile industry who use the product for carpet backing and other purposes, rate SAG Silicone Antifoams "tops"—particularly in the sensitive, critical processing areas where control of foam may determine both the quality and cost of products.

One latex compounder reports, "SAG Silicone is highly effective in reducing foam formed during manufacture and packaging of a variety of latex emulsions. By cutting down on the foam volume we save money and increase equipment efficiency." *A carpet manufacturer says,* "Small concentrations of SAG Silicone, between 50 and 100 parts silicone per million, prevent foam formation in the latex saturator, improving adhesion between latex backing and the carpet."

Years of research went into development of SAG Antifoams to make them *Fight Foam Fast.* Less than 50 parts per million will often do the job. There are two types: SAG 470 Emulsion for aqueous systems; SAG 47 Fluid for non-aqueous systems. Just a few cents worth can eliminate thousands of cubic feet of costly, space-eating foam—not only in latex, but in dyeing, finishing, and many other fluid processes in the textile industry.

Both SAG products are shipped ready to use. Write for samples and information. Address Dept. EX-4986, Silicones Division, Union Carbide Corporation, 30 East 42nd Street, New York 17, N. Y. (*In Canada:* Bakelite Company, Division of Union Carbide Canada Limited, Toronto 7.)

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TECHNICAL LITERATURE

(Literature is available from sources shown in italics)

AHCO PRODUCTS FOR WARP SIZING—*Arnold Hoffman & Co, Inc, 55 Canal St, Providence, RI*—Bulletin 2004 lists and discusses briefly the range of Ahco products for warp sizing, including the Ahcosize liquid emulsions and soft pastes; the Syntharol series of high-melting-point warp lubricant products recommended for cotton slashing, plus Syntharol ND, an anionic liquid emulsion specifically designed to provide combined lubrication and film continuity in sizing nylon, Dacron, and other synthetic filament yarns of moderate and high twist; Ahcosize P, specifcally recommended for sizing Dacron yarns having 12 or more turns of twist per inch.

Among other Ahco products cited are Ahcobond S, a liquid water-soluble binder that is said to reduce shedding by imparting flexibility, toughness and hygroscopicity to the sizing film, and Ahcowax, recommended as a adjunct for increased surface lubrication.

Use recommendations based on mill experience are offered with the notation that specific proposals will develop from a survey of the individual mill's slashing and weaving equipment, fabric specifications, and the size preparation methods. Application of the Ahco product range is discussed with reference to current size-preparation methods, including kettle cooking, accelerated kettle cooking with external circulation, kettle heating followed by homogenization, jet cooking, and high-temperature conversion.

●

FILM GUIDE ON CHEMICALS, CHEMISTRY AND THE CHEMICAL INDUSTRY—*Manufacturing Chemists' Association, 1825 Connecticut Ave, NW, Washington 9, DC*—This revised, expanded catalog now lists 182 titles, and includes alphabetical and subject indexes, a roster of distributors, and sources for films of related interest.

The films are listed by 11 categories and range in subject matter from the scope of a given chemical company to "The Petrified River—The Story of Uranium."

This film guide is designed for use by varied groups, but it is thought to be particularly helpful to educators. The suggested audience level is designated for each film.

●

GUIDE TO SILICONES AND THEIR USES—*Dow Corning Corp, Midland, Mich*—An up-to-date summary of the forms, properties and applications of Dow Corning silicones is contained in this 16-page brochure.

Silicone products reviewed range from adhesives to water repellents. The table of contents is arranged according to applications. Pre-addressed business reply postcards are bound into the guide to facilitate reader inquiries for more specific data about a particular product or application. The Guide is extensively illustrated with photographs, tables and graphs,.

●

MORPATEX 50—*Textile Dept, Morningstar-Paisley, Inc, 630 West 51st St, New York 19, NY*—Morpatex 50 is a metallic pigment binder which is said to have an unusual number of desirable properties for application printing on cotton, fiberglass, and other synthetic fibers. It is supplied as a water-base emulsion incorporating thermoplastic and elastomeric polymers compounded to meet the needs of the textile printing industry. The product reportedly features extreme durability and has been proved especially resistant to dryclean ng and laundering by AATCC Test Methods 36-1957 and 86-1957. The sheet includes characteristics, uses, and specifications for the binder. A set of curves provides a comparison of its stability with that of other binders.

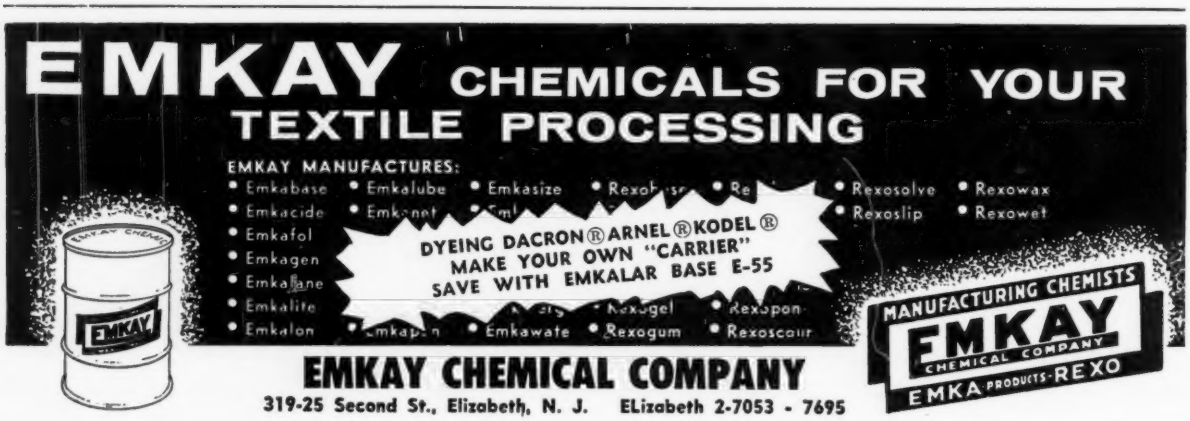
●

PROCTOR DRYING EQUIPMENT FOR THE FOOD, CHEMICAL AND PROCESS INDUSTRIES—*Proctor & Schwartz, Inc, 7th St & Tabor Rd, Philadelphia 20, Pa*—Twenty-page illustrated brochure covers the Proctor & Schwartz line of laboratory dryers, tray dryers, standard design truck dryers, systems for continuous drying, continuous conveyer drying systems, dryer feeds, spray-drying systems, processing equipment for man-made fibers, and process equipment for the food industry.

PROCTOR FEEDS FOR FIBER AND LEAF—*Proctor & Schwartz, Inc, Seventh St and Tabor Rd, Philadelphia 20, Pa—Illustrated* four-page brochure discusses how Proctor fiber and leaf feeds can improve the product and effect economies.

●

STALEY HIGH-SOLIDS JET COOKER—*A E Staley Mfg Co, Decatur, Ill*—This brochure describes a continuous automatic cooking system specifically designed for high-solids finishing preparations. An exclusive Staley development, the system is said to be adaptable to a variety of formulations, and to produce uniform-viscosity pastes to obtain even size pickup with uniform shadings of colored fabrics and savings in mix requirements.



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